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Guests' Perspective on the Hotels' Sustainability Efforts

Case Study – InterContinental and the Green Key Certification

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Abstract

This work project's individual parts present an overview of sustainability certifications used by hotels from different brands worldwide, their motivations, and sustainability indicators as well as tools to measure these indicators. Moreover, best practices in hotel operations and their implementation are discussed. Lastly, the influence that green practices have on guests' behavior when choosing a hotel is explored. The case study is based on this research and stresses the importance of sustainability certifications in the hotel industry. It explores the topic of such certifications for a five-star luxury hotel, the InterContinental Lisbon, identifies the most suitable certification for this hotel, and gives recommendations for its achievement.

Keywords: Sustainability, InterContinental, Lisbon, Green Key, Portugal, Certifications, Ecolabels, Best Practices, Hotel Operations, IHG, Bookings, Hotels, Accommodation Providers

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1. Introduction

Although there is a trend for sustainability in all sectors of consumers' lives, the lodging industry suffers a dilemma in the context of this trend. Considering sustainability refers to the economic, social, and environmental dimensions, sustainable consumers are those whose purchasing behaviors are influenced by at least one of these dimensions (Barber and Deale 2014). For the purpose of this study, the focus will be on the environmental dimension. That being said, many hotels are still hesitant on how they should approach this matter, and to which extent guests are willing to compromise some comfort and engage in more ecofriendly practices. While hotels may actively want to establish these practices, their services' success depends on pampering guests, since it is part of a hotel's primary purpose and what they expect when booking a stay (Barber 2014; Han et al. 2011; Barber and Deale 2014). This dilemma appears to be greater if considered the fact that consumers are necessarily involved in both these efforts (Barber and Deale 2014).

There seems to be, therefore, a common ground between both goals (greener practices and pampering guests), especially because environmentally conscious guests are growing. Since the success of a hotel's sustainability efforts depends on the collaboration of its guests, hotels should try to understand their consumers and appropriately communicate with them. To do so, it is essential to analyze variables such as consumers' demographic circumstances, level of awareness and attitude towards sustainability, and how they influence the perception towards a green hotel image (Chen 2015), which will be done throughout this study. This will allow for a better acceptance and engagement from the guests' side, as well as potentially increasing customer loyalty and reinforcing the hotel's brand image (Chen 2015).

2. Literature Review

2.1. Types of Green Customers

Many studies have been done in an attempt to categorize customers in the green sector (Gabarda-Mallorquí et al. 2018; Gilg et al. 2005). One of them did so by establishing a connection between awareness and proactiveness (Gabarda-Mallorquí et al. 2018). However, these variables seem to be only a fraction of sustainable consumerism, since sustainable consumption is probably one component of what is most likely an overall lifestyle (Gilg et al. 2005). With so many variables and the increasing popularity of green trends, understanding consumers' green purchasing habits is not that straightforward, meaning it may not be a question of "whether a consumer is green but rather how green that consumer is" (Barber 2014). That being said, another study classified consumers into shades of green, according to the extent of their pro-environmental behavior. Whichever categorization method is followed, the guests' experience with green practices in a hotel can be perceived as either positive, neutral, or negative, according to the category they belong to (Barber 2014).

Moreover, the degree of environmental awareness and behavior, in turn, influences other aspects, such as willingness to pay (WTP) and to promote. Some studies reveal that those with higher environmental concerns are more likely to stay at a green hotel, pay a premium for its green practices, and to recommend it (Kang et al. 2012; Han et al. 2009). On the contrary, others suggest that although the majority of consumers agree with ecofriendly initiatives, only a small percentage is willing to pay for it (Barber 2014; Lee et al. 2010). Green practices seem to satisfy guests' certain psychological needs, which, in turn, can increase willingness to pay premiums, although it was found that this willingness is higher in luxury and mid-priced hotel guests in comparison to economy hotel guests (Kang et al. 2012).

2.2. Intention-Behavioral Gap

Hotel choice behavior depends on numerous and interlinked factors that weigh differently in relevance to each consumer (Baruca and Čivré 2012). Although the awareness of environmental issues and the interest in sustainable responses are increasing (Han et al. 2010), it does not yet seem to be the main factor in guests' decision-making process. It appears, actually, that attributes-related aspects such as location play a greater role in the process of choosing a hotel (Barber and Deale 2014; Baruca and Čivré 2012).

One study that tested the effect of environmentally friendly activities based its theoretical framework on Ajzen's Theory of Planned Behavior (TPB) (1991), as it allows for the analysis of the influence of personal and social factors, as well as involuntary determinants on intention. Considering intention means the likelihood of a person displaying a certain behavior (Han et al. 2009), the TPB comprehends a significant predictive power for human behaviors. Said study implied that the attitude towards green hotels depends not only on the guest's own perceptions of ecofriendly behavior, but also the perception of the guest's important others (referents) and stated that the correlations between predictor variables and intention to visit a green hotel can differ across many environmentally friendly behaviors (Han et al. 2010). In accordance, another study highlighted the importance of environmental concern, attitudes, and intentions in the prediction of green consumer behavior (Barber 2014).

A case study on consumer attitudes on green practices in the lodging industry in India states that customers with ecological concerns prefer to make ecofriendly purchases (Manaktola and Jauhari 2007). It would, indeed, be logical to assume that an environmentally aware person would automatically display pro-environmental behavior, however, many studies have revealed that there is a gap between intention and actual behavior (Han et al. 2010; Kang et al. 2012) and that a favorable overall image helps to decrease this gap (Han et al. 2009; Barber 2014). Therefore, considering overall image refers to the beliefs and impressions someone has about

something, there is a positive relationship between a favorable overall image and customers' behavioral intentions, thus influencing the decision-making process (Chen 2015).

2.3. Contextual Influence on Green Attitude

Han et al. (2009) found that customers who have favorable attitudes toward ecofriendly behaviors in their everyday lives are willing to not only stay at a green hotel, but also to recommend it, and to pay more for it (Han et al. 2011). However, some studies indicate that pro-environmental behavior at home does not always translate to the same behavior in a hotel (Miao and Wei 2013). Moreover, a consumer who frequently buys a sustainable product may not be the same one who is willing to visit a green hotel, that is, one ecofriendly purchase does not assure an ecofriendly purchasing behavior (Han et al. 2011). It seems, therefore, that green behavior can vary according to the context.

Considering social psychological research suggests that behavior is dynamic and situated (Roeser and Galloway 2002; Volet 2001), it makes sense to assume that green behavior differs across scenarios. A research on this contextual divergence justifies the contrasting behaviors by analyzing the motivations in each scenario (Miao and Wei 2013). In household settings it seems that a pro-environmental behavior is incentivized by normative motives, that is, the motivation "to act appropriately", while in a hotel context those behaviors are more related to hedonic motives, those associated with pleasure and personal enjoyment (Linderberg and Steg 2007). Another study reveals that because egocentric factors prevail in pro-environmental behavior in hotel settings, green practices that involve concession of personal comfort display the lowest level of engagement (Miao and Wei 2016). Furthermore, it would not be unreasonable to assume that this behavioral inconsistency happens because guests briefly withdraw from environmental concerns when travelling.

2.4. Socio-Demographic Influences

Studies on sociodemographic influences on green consumption point to a green consumer stereotype: young, female, well educated, liberal and wealthy (Gilg et al. 2005). This stereotype, however, seems to be a generalized notion and the relationship between sociodemographic variables and green consumerism is not that precise nor coherent.

Numerous studies display age as an important factor in consumers' overall purchasing behavior, stating that older and younger individuals demonstrate different tendencies (Han et al. 2009). In the green consumption scenario, there is a conventional expectation, supported by some researches, that green consumers are more likely to be younger. Most studies justify this expectation by stating that older people are presumably more conservative and resistant to new products, while younger people are more environmentally aware and tend to search for new information, implying that they are more knowledgeable about green lodging properties and the benefits of staying at a green hotel (Han et al. 2011). Even though some studies suggest a negative correlation between age and environmental preferences (Torgler et al. 2008), meaning that the older people are, the less likely that they are green consumers, most researchers found that there is actually no significant correlation (Gabarda-Mallorquí et al. 2018). Considering the disparity between studies' results, findings around the moderating role of age in green consumption seem to be remarkably inconsistent (Han et al. 2011).

Similarly to age, the variable gender appears to carry a general assumption that green consumers are women, which most studies found it to be true (Chen 2015; Vicente-Molina 2013). It appears that women tend to be more environmentally conscious (Han et al. 2011), and to display a higher enthusiasm in staying at a green hotel (Torgler et al. 2008), as well as to engage in positive word-of-mouth, and to pay more for an ecofriendly stay (Han et al. 2009). The differences exposed by this variable are recognized and studied in marketing and consumer behavior analyses (Han et al. 2009), since they can provide useful information about the

consumer, helping marketers in green hotels acknowledge the characteristics of their target segment (Han et al. 2011).

In what concerns education and income, one research implies that higher levels of these variables tend to occur in more sophisticated estimations of a product's expectations (Keaveney and Parthasarathy 2001), in turn implying that those consumers tend to present a sharper sense of environmental awareness, and, consequently, green purchasing behaviors (Roberts 1996; Han et al. 2011). However, although some studies indicate a positive relationship between education and environmental knowledge, it is not clear how these variables impact green purchasing behavior (Vicente-Molina 2013), which could be attributed to the intention-behavior gap. Moreover, while it would be rational to assume that income impacts the willingness to pay and, consequently, green purchasing behavior, most studies indicate that it does not seem to affect environmental intentions. Therefore, the variables education and income do not disclose strong influences in pro-environmental behavior, hence not being considered good predictors in this context (Gabarda-Mallorquí et al. 2018). Finally, concerning nationality, it would be plausible to presume that cultural elements lead to different pro-environmental behaviors. Besides, no country stands equally in terms of socio-economic circumstances. Therefore, while studies around this variable do exist, generalizations in nationality can become particularly complex.

3. Research

3.1. Methodology

The purpose of this research is to understand hotels' environmentally friendly practices from the prospect of the lodging industry's consumers. That being said, the objectives are to analyze what and how some factors could influence this perspective, allowing to understand differences across factors, and to compare environmental behavior at home and at hotels.

To answer to the purpose of this study, an online questionnaire was developed through the *Google Forms* platform (Appendix 1), titled “Guests' Perspective on Hotels' Green Efforts”. It was shared through LinkedIn, WhatsApp and Instagram from the 25th of October to the 10th of November 2022. The survey was analyzed through IBM SPSS Statistics and Microsoft Excel. The questionnaire was divided into four sections, where the first part corresponded to sociodemographic questions. For evaluational reasons, in both “age” and “monthly household income” the available answers were categorized instead of being treated as continuous variables. In the variable “age” there were five classes, whereas in the “monthly household income” there were four. The second part, titled “personal sustainability efforts”, consisted of one question concerning the participants’ degree of commitment in twelve different ecofriendly practices held at home. For this purpose, participants were asked to choose a level from one to five, where, accordingly to the Likert Scale, each number respectively refers to “strongly disagree”, “somewhat disagree”, “neither disagree or agree”, “somewhat agree” and “strongly agree”. The third part contained six questions regarding personal travelling habits. One question involved ranking priorities when booking a hotel in order to grasp the importance of each factor in the decision-making process, while other questions sought to understand the effect of price and the willingness to pay for seven different hotel attributes. The last question asked participants, again adopting the Likert Scale, to which extent they would engage in eight green practices examples in hotels. Finally, the last section amounted to the participants’ previous experiences with sustainability in hotels and further feedback on the topic.

3.2. Sample

The sample of this survey consisted of 129 people. While 68.2 % of the participants were female, 31.8% were male (Appendix 2). The vast majority of the sample was aged between 18 and 25 years old (58.1%), while 9.3% were 26-35, 3.9% were 36-45, 20.9% were 46-60, and 7.8% were 60 or above years old (Appendix 3). Although there were 21 different nationalities,

almost 60% were Portuguese. Other noticeable nationalities were Brazilian (10.1%), followed by German (7%), Czech (4.7%), and Vietnamese (3.9%) (Appendix 4). The remaining nationalities represented 1,6% or less each, leading to a scenario that might not allow for precise conclusions on the effect of this variable. Regarding occupation, slightly over half of the participants were employed (51.9%), around a third were students/recent graduates (34.1%), and unemployed and retired participants corresponded to 7% each (Appendix 5). As for the monthly household income, 42.6% selected “up to 2.000 euros”, 37.2% “2.000 - 5.000”, 13.2% “5.000 – 10.000”, and 7% “more than 10.000 euros” (Appendix 6). The variable level of education presented a very concentrated result, with the vast majority of participants alleging their highest level of education was either Master’s (46.5%), Bachelor’s (33.3%), or High School (15.5%) (Appendix 7).

4. Results

4.1. The Impact of Gender on Green Intentional Behavior in Hotels

To examine the impact of gender on ecofriendly intentional behavior in a hotel context a new variable, named “Hotel Practices overall score”, was created. The question regarding hotel’s green practices (Appendix 1, question 13) displayed eight different measures for which participants had to select their level of agreement using the Likert Scale. That being said, to calculate the value of this new variable the mean of each participant’s answers across all eight measures was calculated. These means represented overall grades of the participants’ level of agreement to green practices, meaning the closer the mean was to 5, the higher the participant’s level of agreement and, therefore, ecofriendly intentional behavior. Subsequently, the gender means were calculated by summing all the overall scores from male participants and dividing by its respective sample size, and in the same manner for the female participants (Appendix 8). By comparing both gender means, it is visible that female (4.3) scored higher than male participants (3.94). This implies that women display greater levels of agreement and intentions of

engagement in hotels' green practices, which would agree with the literature review on this topic. To better support this argument, the following hypothesis was tested:

H₁: Green intentional behavior in hotels is independent from gender

To test the hypothesis, a Pearson Correlation analysis was performed by using the variables "Hotel Practices overall score" and gender. However, for this correlation to be conceivable, the categories in gender had to be recoded into a numeric scale, where male was 1 and female was 2, creating the variable "GenderNum1". The results of this correlation **reject the null hypothesis**, as the p-value (0.011) was lower than at any common level of significance (0.05), meaning there seems to be a relationship between the two variables (Appendix 9). These results support the argument presented above that women seem to demonstrate stronger intentions on agreeing with and participating in hotels' green practices.

4.2. The Impact of Age on Green Intentional Behavior in Hotels

The newly created variable "Hotel Practices overall score" was also used to assess the influence of the variable "Age", and the categories for this variable were recoded into a numeric scale: 18-25, 26-35, 36-45, 46-60, and 60 + respectively became 1, 2, 3, 4, and 5. To evaluate a possible relationship between the mentioned variables, a null hypothesis was introduced:

H₂: Green intentional behavior in hotels is independent from age

A Pearson correlation between these two variables resulted in a p-value of 0.264, **failing to reject the null hypothesis** (p-value>0.05) (Appendix 10), meaning that age does not seem to have a significant influence on the willingness to engage in hotels' green practices. Despite not agreeing with the assumption that younger people are more environmentally proactive, this result supports the inconsistent conclusions regarding the impact of age in green behavior, mentioned in the literature review.

4.3. The Impact of Income on Willingness to Pay for Ecofriendly Practices in Hotels

In the personal travelling habits section, one question measured the willingness to pay for seven different hotel attributes, one of which was “ecofriendly practices (whether the hotel has a certification or not)”. The extent to which participants were willing to pay were, once again, selected into the Likert Scale. However, when analyzing the data, the crosstabulation results were overly spread across the five levels of scale and presented more than the recommended number of cells with less observed than expected count, which could be due to the fact that the sample size of each category was too small. The category “more than 10.000 euros”, per example, was selected by only nine participants. For that reason, levels 1 and 2 (“strongly disagree” and “somewhat disagree”) were recoded into one single level, number 1; level 3 (“neither disagree or agree”) became level 2, and levels 4 and 5 (“somewhat agree” and “strongly agree”) were converted to level number 3. The outcome of this recodification was: level 1 – “unwilling”, level 2 – “neutral”, and level 3 – “willing”, which allowed for a clearer analysis of the given sample. To better understand a possible correlation between “income” and “WTP for ecofriendly practices” a null hypothesis was defined:

H₃: WTP for ecofriendly practices in hotels is independent from Income

The relationship between the variables can be examined through the crosstabulation (Appendix 11). However, as the sample from each income category are different from each other, a percentage approach was used to create another table. As seen in percentage crosstabulation (Appendix 12), all income categories presented slightly disperse results. However, there are still some visible tendencies that can be analyzed. The first two categories of income (“up to 2.000 euros” and “2.000 to 5.000 euros”) presented a higher percentage on the first level of agreement (45.5% and 41.7%), implying that participants with an income of up to 2.000 euros, as well as those with 2.000 to 5.000 euros, are more often “unwilling” to pay for ecofriendly practices in hotels. On the other end, participants that selected “more than

10.000 euros” displayed a slightly higher percentage belonging to the second level (44.4%), meaning these participants are more likely to be “neutral” in their willingness to pay for ecofriendly practices in hotels, while a third of them were “willing” (33.3%) and 22.2% were “unwilling”. Lastly, participants that selected an income of 5.000 to 10.000 euros manifested a slightly polarized result, with 35.3% belonging to level 1 and 41.2% to level 3, meaning these participants present the highest level of willingness across all income categories . There seems to be, therefore, a trend that indicates that the higher the income, the higher the willingness to pay for ecofriendly practices, although this trend is not followed by the highest income category, where most of the participants are “neutral”.

These results alone, although indicative of some tendencies, are still vague to allow for precise conclusions. That being said, looking at the Chi-Square test (Appendix 13), the p-value demonstrates the **failure to reject the null hypothesis** ($0.712 > 0.05$). This is an interesting result because it goes against the common assumption that the higher the income, the higher the willingness to spend.

4.4. Household vs. Hotel Behaviors

4.4.1. Willingness to Pay for Ecofriendly Products vs Ecofriendly Practices

To learn more about a possible relationship between willingness to pay in a household setting in comparison to a hotel context, the variables were taken from two questions. The first variable belonged to the “personal sustainability efforts” section, where participants were asked to select the degree, from one to five, to which they agreed with twelve different sustainability-related behaviors practiced at home. One of these statements was “I do not mind paying extra for more sustainable products”, which will be the variable used to measure the “WTP for ecofriendly products at home”. The other variable was sourced from the WTP question in the “personal travelling habits” section (question 12) and represents the “WTP for ecofriendly practices in hotels”. Furthermore, for the same reasons as those in the testing of the third null hypothesis,

the variables in the current null hypothesis testing were also recoded from five to three levels, equally named “unwilling”, “neutral”, and “willing”.

H₄: WTP for ecofriendly practices in hotels is independent from WTP for ecofriendly products at home

By examining only the crosstabulation of these variables (Appendix 14), results could possibly be biased due, once again, to the fact that sample sizes are not equal across all levels. Equally to the previous null hypothesis testing, a new table was created using percentual values (Appendix 15), which will guarantee an unbiased analysis on how WTP in a household context translates to the WTP in a hotel setting. Looking at the percentages table (Appendix 15), the vast majority of those “unwilling” to pay for ecofriendly products at home display the same attitude for ecofriendly practices in hotels (61.9%). However, roughly a third of them are “neutral” (31%), and a few are “willing” (7.1%). The first relationship seems to be logical, that is, those who are not willing to pay for ecofriendly products at home are also those equally unwilling to pay for ecofriendly practices in a hotel context. On the other hand, a significant fraction of those who are “unwilling” in a household scenario are “neutral” in a hotel. This seemingly inconsistent result, combined with the few “willing” participants, suggest that these participants view hotels' ecofriendly practices as a higher quality indicator, despite not having the same perception in everyday purchasing habits. The “neutral” category at home, on the other hand, translates by 50% to the same behavior in hotels, while 23.3% of those who are “neutral” at home are “unwilling” in hotels and 26.7% are “willing”. Lastly, the participants that were “willing” to pay for ecofriendly practices at home mostly translated the same behavior to a hotel as well (42.1%), while 22.8% “neutral” and 35.1% became “unwilling”. Despite presenting more disperse outcomes, the last two results still uphold the assumption that ecofriendly purchasing behavior at home hints, for the most part, at the same behavior in hotels. To test this hypothesis, a Chi-Square test was done (Appendix 16). The results provide a p-

value smaller than 0.001, which supports the **rejection of the null hypothesis** ($p\text{-value} < 0.05$), meaning the WTP for ecofriendly products at home is somewhat related to the WTP for ecofriendly practices in hotels.

4.4.2. Willingness to Participate in Ecofriendly Practices

To more deeply analyze green behavior at home versus at a hotel, a comparison was made by using statements that related to each other: on one side a statement from the “personal sustainability efforts” question and, on the other side, a statement from the “travelling habits” green practices engagement question. To allow for a better comparison, the mean of each statement's answer (chosen from one to five) was calculated (Appendix 17). In regard to recycling, participants seem to show a slightly higher willingness to participate in recycling at a hotel (4.26) than at home (4.05). The trend appears to be the same for water usage, although with greater disparities: the mean for “taking short showers” (3.29) is lower than for “not washing the linen everyday” (4.09), meaning participants are more willing to save water in a hotel context, which could be explained by the different willingness to forego two different types of commodity. Seemingly for equal reasonings, guests seem to agree more with ecofriendly energy measures in hotels (4.43) than at home (3.88). Nonetheless, all discussed values are positive, as they are higher than three, the level of neutrality. This is not true, however, for the use of ecofriendly products, as the mean for this behavior at home is 2.78 and 4.12 in hotels. This disparity could be due to the fact that ecofriendly products are usually more expensive, whereas in a hotel the guest does not feel directly affected by this concern.

H₅: Ecofriendly behavior in hotels is independent from ecofriendly behavior at home

Because the means alone do not allow for an explicit comprehension of how green behavior at home is related to green behavior in hotels, a Pearson correlation between the variables at home and in hotels was performed for each behavior (Appendices 36, 37, 38 and 39). The p-values from all four correlations indicate the **rejection of the null hypothesis** above

since they are all below any common level of significance (0.05). This result supports the argument that ecofriendly behavior at home is linked to ecofriendly behavior in hotels.

4.5. The Importance of Ecofriendly Practices When Booking

Although guests seem to be generally concerned with environmental issues, it is important to understand to which extent ecofriendly practices are a priority for guests when booking a hotel. By taking the answers of the seven factors in the factors' ranking question, an average score was calculated for each (Appendix 22). Considering the scores, the hotel's location is the guests' first priority, followed by reviews. Sustainability measures and/or certifications is in fifth place. This result agrees with the location's average score of WTP (Appendix 23), which is the highest among seven hotel attributes (4.29), considering the Likert Scale. The WTP for ecofriendly practices, however, is much lower (2.82). These results indicate that the higher the place of priority of a certain factor, the higher the WTP for it.

5. Conclusion and Limitations

This study attempted to answer the question of how guests perceive greener measures in a hotel context, while also keeping in mind that changes in policies that affect products, in this case services designed to meet certain expectations, are ineffective without the active engagement of consumers (Barber 2014). Some of the results are supported by the presented literature review. The impact of gender in green behavior indicated a higher degree of green attitude by female participants, which is similar to the results found on many studies, including those who researched green consumerism behavior (Chen 2015; Han et al. 2011; Torgler et al. 2008; Vicente-Molina 2013). On the other hand, the impact of age in green behavior displayed incoherent results, leading to believe that this variable does not significantly influence green behavior. Despite the inconclusiveness of these results, they are supported by the divergent evidence found in the literature review.

The impact of income was studied based on its influence over WTP for ecofriendly practices in hotels, in which case a hypothesis testing failed to prove a correlation. Similar to two studies mentioned in the literature review (Gabarda-Mallorquí et al. 2018, Han et al. 2011), it seems that, regarding sociodemographic factors, only gender displays a significant influence over green behavior. The willingness to pay was also studied in relation to the context, that is, household versus hotel. In this case, the WTP for ecofriendly products at a household level was proved to be correlated to the WTP for ecofriendly practices in hotels. The willingness to participate in ecofriendly practices was also studied in a context scope: all ecofriendly practices at home displayed a lower enthusiasm than if applied to a hotel scenario, which could be explained by the fact that in a hotel setting guests are less directly affected by the specific studied behaviors. However, a Pearson correlation suggests a relationship between green behavior in the contexts. Furthermore, an analysis on the ranking of priorities demonstrated that location is the most decisive factor when booking a hotel, while ecofriendly practices and/or certifications occupies the fifth place of priority. Moreover, it was also observed that the WTP for a certain hotel attribute is related to the influence that attribute has on the booking decision.

Finally, some limitations in this study must be recognized. Bigger and more diverse samples are recommended to allow for a clearer analysis, although in the case of a smaller sample, it is equally smaller scales are recommended. Moreover, the statements compared within the “Willingness to Participate in Ecofriendly Practices” results are only roughly related. To better understand the discussed behaviors in two different contexts, it is recommended that the statements are more directly connected, per example: “I take short showers at home” and “I am willing to take short showers in a hotel”. Studies on how hotels can better disclose their sustainability efforts to boost performance are highly encouraged, as well as extended research on the effects of price in green consumerism in the lodging industry.

1. Introduction

People's travel habits have changed dramatically over the last decades and especially since the pandemic. Technology has long been revolutionizing industries, customers' expectations are increasing, and climate change as well as resource shortages have led to increasing awareness for the topic of sustainability. More and more businesses are realizing their responsibility to act sustainably and adapted their operations and routines to cause as little harm as possible to their local environment and stakeholders. With legal requirements, pressure from employees and guests' awareness for such efforts growing, a lot of hotels are getting their sustainability work and initiatives validated and made publicly visible through certificates. A project with four master's students was brought into being to assist InterContinental Lisbon (IC Lisbon) before and during the application process for the Green Key, a well-known international hotel sustainability certification (see Executive Summary in the appendices).

The work at hand illustrates the status quo of IC Lisbon's current efforts in the area of sustainability and describes and evaluates the tools and measures in place today (Chapter 2). With the tourism industry still recovering from the pandemic, IC Lisbon tasked itself with an exciting, yet complex challenge as described in Chapter 3. This work was created to support the hotel during its endeavor and explores a number of aspects (Chapter 4): Its aim is to inform about the characteristics of the chosen certification program, the Green Key, so that benefits can be leveraged, and potential disadvantages accounted for. Moreover, through comparison with other hotels and their initiatives as well as elaborate research on guests' perspectives, best sustainable practices were explored, and recommendations built. The overall purpose of this work is to facilitate and expedite the achievement of the Green Key for IC Lisbon. Key findings and recommendations are summarized in Chapter 5.

2. About InterContinental Lisbon

2.1. The Hotel

InterContinental Lisbon is a five-star hotel that falls under the category of luxury and is located among the most cosmopolitan and busiest European cities in the world, Lisbon. It belongs to the prestigious hotel brand, InterContinental Hotels & Resorts, and is owned by one of the world's largest hospitality companies, InterContinental Hotels Group (IHG). The company originates from the UK and currently owns 17 different hotel brands with over 6,061 hotel properties around the world including 888,000 rooms (Au 2022; InterContinental Hotels Group PLC 2022). As of 2022, InterContinental Hotels & Resorts manages at least 209 hotel properties operated in 67 countries (Au 2022). The majority of these properties belongs to the luxury category and offers excellent customer service along with a wide variety of exquisite, luxurious experiences.

IC Lisbon is the second largest Portuguese hotel under InterContinental Hotels & Resorts and opened its doors to the public in 2014 (InterContinental Lisbon 2022). There are two more properties in Cascais and Oporto, making up a total of three InterContinental hotels operated in mainland Portugal. IC Lisbon is conveniently located in the city center which attracts thousands of tourists from all over the world and has breathtaking views from each guestroom, overlooking Praça do Marquês de Pombal and Parque Eduardo VII. Many fashion stores, restaurants, bars and coffee shops are located within a short walk from the hotel.

The hotel has 331 guestrooms along with 14 rooms for business meetings and group events (Conference Hotel Group 2022). All guestrooms and suites have been fully renovated in 2019. In total, there are 225 single rooms, 106 double rooms, and 17 suites (Cvent Supplier Network 2022; InterContinental Lisbon 2022). The size of all suites ranges from 43 to 157 m² whereas the size of guestrooms is between 34 and 70 m² (InterContinental Lisbon 2022). The rates of the guestrooms and suites vary depending on season and demand. IC Lisbon's high

season includes the months of May, June, September and October whereas January to March, July, August and December are off-season months (Conference Hotel Group 2022). The normal rate for a single room with breakfast is between €214 and €504 per night; a double room costs between €226 and €543 per night. The rates for suites range from €486 to €1,098 per night.



Figure 1. The InterContinental Lisbon (IHG 2022).



Figure 2. Hotel Room (Meetings In Portugal 2022).

The property offers free access to Internet all over the entire building, laundry service, 24-hour room service and reception, babysitting and pet services, transfer shuttles from and to the airport, luggage storage, concierge, valet parking, a parking garage, and gym (InterContinental 2022).

There is a restaurant on-site called Akla where guests can try a wide variety of local and international dishes prepared by Chef Eddy Melo; the normal rate for a single person is €16.50 and €29 for a brunch on Sundays. Uptown Bar is a cosmopolitan bar with live music and a large drinks selection (InterContinental Lisbon 2022). An International Club Lounge is reserved only for exclusive guests that benefit from the services of personalized check-in and check-out times, special delicious breakfast, the business center, a private meeting room for up to ten people and a happy hour with drinks and appetizers (InterContinental Lisbon 2022).

2.2. The Team

Thoughts and actions around the topic of sustainability are present in all departments and areas of the hotels. In fact, at IC Lisbon, management believes it is a team job to create operations as sustainable as possible. Eventually, physical changes around the property as well as changed

routines will affect all employees working there. Therefore, the responsibility is shared between several different department heads, forming IC Lisbon's six-person core team. With decades of combined experience in the industry, all six are well aware of the trends that are currently disrupting hospitality and the expectations they need to meet to keep their hotel competitive.

Vítor is the Human Resources (HR) Manager of both InterContinental Lisbon and Crowne Plaza Porto. He has been working at the hotel for more than seven years and is mainly responsible for making sure that everyone in the workplace maintains a great work-life balance, ensuring that every employee is rewarded for his or her hard work and receives a compensation bonus, as well as recruiting and selecting ideal candidates for specific job roles. José is the hotel's Chief Engineer and has been working there for six years. He ensures that all operations within the hotel property are working properly, holds meetings with the maintenance staff to discuss the status of maintenance issues, conducts inspections around the property to guarantee that the premises are safe for guests, and measures sustainability indicators on the Green Engage Platform. This year, Elisário got promoted to taking over the job of Head of Security, Recruitment & Development (Lopes 2022). His role consists of managing the security around the premises of the hotel property as well as adopting inclusive practices of diversity in the hotel and recruiting the right employees for the training programs (Lopes 2022). Artur has been the Rooms Division Director for eight years. His responsibilities include supervising the front office and reception teams to facilitate the check-in and check-out processes, and checking on whether all rooms of the hotel are not only neat but also clean to be ready for use before a new guest checks in. Pierre is the Food & Beverage (F&B) Manager and mostly in charge of offering high-quality food and drinks to the guests, making sure all employees of the F&B department comply with important safety rules, checking the food inventory on a regular basis, and making menus stand out in order to retain guests. Maarten is the Cluster General Manager of both InterContinental Lisbon and Cascais-Estoril and has been working with the brand for a year.

His main role is to make sure that all services provided at the hotel are up to guests' anticipated needs and to check whether all operations of both hotels run smoothly to guarantee the experience for each guest is pleasant and enjoyable throughout their stay.

2.3. Sustainability Efforts

Around the six-person core team, IC Lisbon currently assembles a Green Engage Team, consisting of 21 staff members from all departments. Together with the hotel manager, this group holds regular meetings to discuss environmental matters, keep the staff informed of new changes and environmental initiatives as well as to hear new suggestions on sustainable practices from the staff. In 2021, IHG introduced its ten-year sustainability action plan called "Journey to Tomorrow" which advises people to travel responsibly and hotels to deliver "True Hospitality for Good" to all guests and employees (InterContinental Hotels Group PLC 2021). This action plan highlights the hotel's long-term sustainability ambitions and actions as well as its commitment to being a responsible business in the long-term. In order to increase awareness on environmental issues and environmental protection initiatives, the hotel encourages relevant stakeholders, namely ANP-WWF and local government authorities, to get involved in promoting the environmentally friendly practices as well as safeguarding important historical sites. The hotel also has a code of conduct where all staff members must abide by its regulations and standards. The following tools are currently in use:

- "*IHGMyLearning*" is an online platform for staff members where they have access to resources and learning tools regarding environmental issues.
- "*Green Engage*" is the main tool that enables the hotel to measure and keep track of sustainability indicators and set target reduction goals for the respective year. As of now, the hotel calculates the amount of carbon emissions, the amounts of energy and water consumption, as well as total waste generated on a monthly and annual basis.

- The corridor of the staff area on the ground floor, internally called “*Heart of House*”, displays signage on environmental and sustainability initiatives to remind staff members of the importance of minimizing water and energy usage as well as avoiding the use of paper and plastic water bottles.
- “*Colleague Heartbeat*” is an engagement survey that requires staff members to give feedback on the environmental performance of the hotel.
- The hotel also uses “*Infraspeak*”, a platform that manages water maintenance for regular inspections on leaks from the showers and dripping taps.

2.3.1. Environmental and Economic Level of Sustainability – Water

To prevent excessive water consumption, all hand showers of each guestroom from the model “Radiance Select S” do not exceed nine liters of water per minute and the taps from the brand “Hansgrohe” do not exceed eight liters of water per minute either. Water sensors are installed in every bathroom of the property and so are the grease traps for the kitchen. The hotel property is connected to a sewage system and does not have any domestic dishwasher or laundry machine on its premises. A water risk assessment was carried out by an external company in 2015. The hotel does not yet have water meters installed in areas with high water consumption, namely the kitchen.

2.3.2. Environmental and Economic Level of Sustainability – Waste

The hotel’s waste segregation system includes the following categories: paper, cardboard, glass, metal, food waste, and cooking oil. Instructions on how to sort waste correctly are clearly signaled and easy to read for both members of staff and guests. Single-use tableware products are used only for take-aways. Fruits, vegetables, and fish are delivered in reusable plastic boxes. The hotel does not yet have a food composter to convert food waste into soil for gardening purposes, but all eatable leftovers are collected by Refood Association. Moreover, the hotel uses the DOCMX program to reduce the use of paper in all its facilities and operations.

2.3.3. Environmental and Economic Level of Sustainability – Energy

Heating, ventilation and AC (HVAC) systems are controlled by Siemens Desigo CC BMS. More than 90% of light bulbs in every area of the property are LED bulbs. Grease filters are cleaned four times a year whereas HVAC systems are cleaned once a year. The refrigerators and fridge countertops are defrosted only if there are issues occurring. The heating and cooling temperatures in every guestroom and meeting room are controlled by BMS Fidelius. To minimize energy consumption, timers are used for controlling outside lighting. All windows of the property are energy efficient with double glazing and 3M film to minimize heat transfer. The hotel carried out an external energy audit in 2017. This audit helped the hotel identify the specific areas of its property that had substantial increases in energy consumed and actions were suggested to reduce the use of energy in these areas. The hotel should continuously look for ways to save energy and could additionally consider renewable resources, for example, by installing solar panels. This would substantially decrease spending on electricity.

2.3.4. Social Level of Sustainability

Regulations regarding the areas of health, labor, safety and environment are strictly followed by the hotel which must naturally be compliant with local and international legislation. Child labor is strictly forbidden, and the hotel must abide by the IHG standards and local law. All disabled people, guests and staff members, can ask for special requests on-site and have access to all public areas of the building. The hotel ensures that its HR policies are transparent and treats every employee equally with respect and dignity. The hotel fully supports animal welfare guidelines and a social community activity named “Plantar uma Árvore Association” to help and promote nature conservation activities. Activities in other areas such as diversity, wellness, philanthropy or volunteerism, for example, could be considered in the future.

3. The Challenge: Certifications

Amid the ongoing pandemic, tourism rebounds tremendously, being the most accelerated sector and the biggest revenue income source for Portugal. As of July 2022, Portugal had recorded nearly 1.8 million tourists in comparison with only 1.78 million in July 2019, representing a +1.1% growth since the pandemic (Y-Axis 2022). Despite the Portuguese tourism sector having a strong total GDP of 15% prior to the pandemic, Portugal experienced the highest projected GDP growth at 6.5% for the summer of 2022 being the only European country to ever achieve this rate (ECO News 2022; Y-Axis 2022). According to the World Travel & Tourism Council (2022), the tourism sector in Portugal is anticipated to grow at an average rate of 3.4% annually and will contribute to a total GDP of 16.2% by the end of 2022. These figures demonstrate that the country and its tourism sector are experiencing a strong recovery from the pandemic and support the idea of investing in marketing and sustainability, for example in the form of a certification pursuit.

With the tourism sector booming for years, concerns about the environmental impacts of the hotel business have surged. These impacts include the consumption of enormous amounts of water and energy, production of ever more waste and the dramatic increase of carbon emissions every year. Therefore, hotels all over the world increasingly started to take action and effectively developed sustainable practices to significantly decrease their detrimental environmental impact. To acknowledge their sustainability efforts and especially their desire to do no harm to our species and planet, an increasing number of hotels have applied for and been awarded a sustainability certification.

A few of the most renowned sustainability certifications used by hotels all over the world are Green Key, Green Globe, BREEAM, EarthCheck and Travelife. Around 3,700 hotel properties from 60 countries have been awarded the Green Key Certification (Green Key 2022). More than 500 hotel properties across 80 countries have become members of Green Globe,

1,500 hotel properties in 50 countries are recognized by Travelife, and EarthCheck awarded over 1,300 hotel properties from more than 60 countries (Bensaude Hotels Collection 2022; Green Globe 2022; Memmo Baleeira Hotel 2022). According to BREEAM (2022) and the statistical data collected from its online platform, 85 hotel properties across 13 countries have achieved the BREEAM Certification. In comparison to other countries around the world, Portugal has a rather low rate of awarded hotel properties with the above-mentioned sustainability certifications. As can be seen in Table 1, only 3.9% of all Portuguese hotels hold a Green Key Certification, 0.2% of hotels are Green Globe members, 3.6% of hotels are certified by Travelife and 4.7% of hotels have the BREEAM Certification.

Certifications	No. of Hotels Worldwide	No. of Hotels in Portugal	Percentage
Green Key	3,700	145	3.9%
Green Globe	500	1	0.2%
Travelife	1,500	54	3.6%
BREEAM	85	4	4.7%

Table 1. Portuguese Certified Hotels Compared to Certified Hotels Worldwide (Own Work)

The city of Lisbon always had and still has a strong vision for sustainability long-term and is determined to better position itself as a green city among European cities. Even though Lisbon is not the greenest in comparison to other cities within Europe, it has been awarded “European Green Capital 2020”, proving its commitment, significant progress, and future promise (European Commission 2020). Lisbon’s sustainability journey began a long time ago during the financial crisis and the city has since invested in numerous green projects and policies which motivated countless European cities to follow its leadership and share its sustainable practices. Amongst its most prominent achievements are the following: it achieved a 42% of carbon emissions reduction in 2014 and additional 28% of energy conservation in 2017; it managed to effectively reduce water consumed by 50% in 2018 and increased the use of public transportation by 20% in 2019 (European Commission 2020). Following these achievements, Lisbon has set new targets to further improve its sustainable image such as reducing carbon

emissions by 60% by 2030; reusing 20% of water for irrigation purposes by 2030; and reducing water consumption by 20% by 2025 (European Commission 2020).

With tourism contributing immensely to the Portuguese economy, especially in Lisbon, accommodation providers are asked to support these governmental efforts. Interestingly, despite Lisbon having a global reputation for being a sustainable city, only 6.9% of hotels based in Lisbon hold a Green Key Certification (Green Key 2022). In comparison, 34.5% of the hotels located on Madeira, for example, are Green Key holders (see Table 2). However, of all certified hotels in the Lisbon Metropolitan Area, most chose the Green Key (55.6%) as can be seen in Table 3 (Green Key 2022). The Green Key seems to be the preferred certificate for local hotels.

Region	Green Key	Pct.
Azores	5	3.4%
Madeira	50	34.5%
North	22	15.2%
Central	19	13.1%
Lisbon City Center	10	6.9%
Outside Lisbon	15	10.3%
Alentejo	5	3.4%
Algarve	19	13.1%
Total	145	

Table 2. Total Number of Green Key Hotels in Portugal (Green Key 2022)

Certifications	Lisbon City Center	Pct.
Green Key	10	55.6%
Green Globe	1	5.6%
EarthCheck	2	11.1%
Travelife	1	5.6%
BREEAM	4	22.2%
Total	18	

Table 3. Total Certified Hotels in Lisbon (Own Work)

Six four-star luxury hotels and three five-star upscale hotels are located within a short distance of IC Lisbon. Among those hotels, several are Green Key certified, namely Lisboa Marriott Hotel, Sheraton Lisboa Hotel Spa and DoubleTree by Hilton Lisbon Fontana Park, all represented by the world's largest international hotel chains, thus having a great global reputation in the hospitality industry. Hotel Tivoli Avenida Liberdade Lisboa and Pestana Lisboa Vintage are certified by both BREEAM and Green Key. Competing with these well-known and perfectly located sustainable hotel brands may be challenging for IC Lisbon – especially considering guests' perception of price as well as their personal awareness of their own responsibility regarding sustainable travel.

Consumers' travel habits have changed drastically since the beginning of the pandemic and their awareness for and incorporation of sustainable practices into their daily lives is ever increasing. People are becoming more conscious of responsible travel and choose more green options than ever when it comes to travelling and accommodation. Booking.com conducted an extensive online survey on sustainability travel in February 2022 for which data had been gathered from 30,314 global travelers from over 30 countries (Booking.com 2022). Among the most important findings were the following: 81% of respondents believe that traveling more sustainably is important for them, 53% of them would rather choose a sustainable hotel property with a mission centered on respecting the environment and adding value to local communities, 38% of them search for sustainability efforts of a hotel before making a reservation, 57% of them would be content if they stayed at a hotel property recognized with a sustainable certification, and 54% of them would even filter for hotel properties with a sustainable certification on Booking.com (Booking.com 2022). Based on these findings, too, it seems most advantageous for a hotel to be certified as a sustainable property nowadays.

The pressure to operate in a sustainable way and to make one's efforts visible by getting them approved through a certifying organization is clearly increasing. However, at the moment, IC Lisbon does not yet have any sustainability certification to acknowledge its efforts. To stay competitive in a city like Lisbon, surrounded by strong brands with great reputation, this will need to change. Vítor and his team at IC Lisbon are tasked with a challenging mission.

Their main question is "Which certification should IC Lisbon try to achieve and how can they best achieve it?". Based on previous research findings, this case study explores a potential certification of a five-star luxury hotel in Lisbon, the IC Lisbon. The sustainability certifications that are most awarded to hotels around the world were identified and characterized and their relevance for IC Lisbon evaluated (see Certification Overview in the attachments). The following chapter will explore the most suitable certification option for IC Lisbon, identify

the strengths and weaknesses of the indicators and tools IC Lisbon uses to measure its sustainability progress, in particular the Green Engage Platform, describe the process of identifying the current practices that do not fulfill the Green Key requirements and, more importantly, determine how the best practices should be implemented in order for the hotel to become certified. Moreover, this next part's aim is to outline to what extent a sustainability certification may influence guests' buying behavior when choosing a hotel property to stay at.

This case study's research sub-questions are as follows:

1. Which certification is most suitable for IC Lisbon and what should the hotel know about it?
2. What are the potential advantages and downsides of the sustainability tool IC Lisbon currently uses?
3. What best practices should be applied to meet the terms to obtain the certifications?
4. How can IC Lisbon expect a certification to influence guests' decision-making process and maximize the positive effect it can have on bookings?

4. Teaching Notes

4.1. The Green Key – A SWOT Analysis

IC Lisbon would like to receive an internationally recognized certification that satisfies the expectations of its own local management and the corporate offices of IHG. Given there are no well-established national certificates in Portugal while a number of global certifications have become quite popular with hotels, especially in the Lisbon area, the following was concluded: On its mission to meet expectations and keep up with local competitors, the Green Key was found to be the most suitable option for IC Lisbon. Other InterContinental hotels have already had good experiences with the Green Key, it is recommended by several large hotel chains (e.g., Radisson) and, given IC Lisbon is already quite knowledgeable in the field of sustainability, not least because of the Green Engage Platform and other initiatives of its head offices, the brand and the hotel itself, the hotel is considered well prepared to go through Green Key's high-quality, demanding, and complex process.

The Green Key eco-label was established in 1994 by the Association of the Hotel, Restaurant and Tourism Industry in Denmark, the Outdoor Council and Association of Danish Tourism Executives (Green Key 2022). Since 2014, tourism businesses in all countries are eligible to apply and two years later, the certificate became approved by the Global Sustainable Tourism Council (GSTC). The past decades have allowed the organization to gain experience, industry knowledge, and awareness for national conditions as well as a high profile worldwide. The following SWOT analysis will characterize the certification in more detail. Table 1 provides an overview of its key aspects:

Strengths	Weaknesses
• Most geographically widespread tourism ecolabel in the world • Recognition by GSTC, UNWTO, UNEP • Extensive choice of voluntary criteria • High credibility • National operators in 40 countries • Non-profit and non-governmental nature	• Validity of 12 months only • No consideration of business-specific circumstances • No proof of repeated business or attraction of new business • Lack of quality of marketing opportunities

• Comparably low participation costs • Promotional opportunities • Long-lasting experience	• Tedious and inflexible application and renewal processes • Significant presence in Portugal already
Opportunities	Threats
• Different levels of certification • Regular updates of criteria catalogue • Candidate for future quality indicator besides hotel star rating	• Strong competition and new entrants • Confusion of applicants and guests • Overcrowding • Low awareness among travelers

Table 4. SWOT Analysis of Green Key (Own Work)

4.1.1. Strengths

The Green Key operates in 65 countries and, thus, is one of the most geographically widespread tourism ecolabels in the world (Green Key 2022; see Figure 3). It has been awarded to around 3,500 sites worldwide (2,700 of them are accommodation providers); the countries holding the highest number of certificates are European: Netherlands (673), France (614), and Greece (512) (Green Key 2022). In Portugal, 225 businesses have been certified to date. One of its main competitors, the Green Globe, currently only has around 500 members (Green Globe 2022).

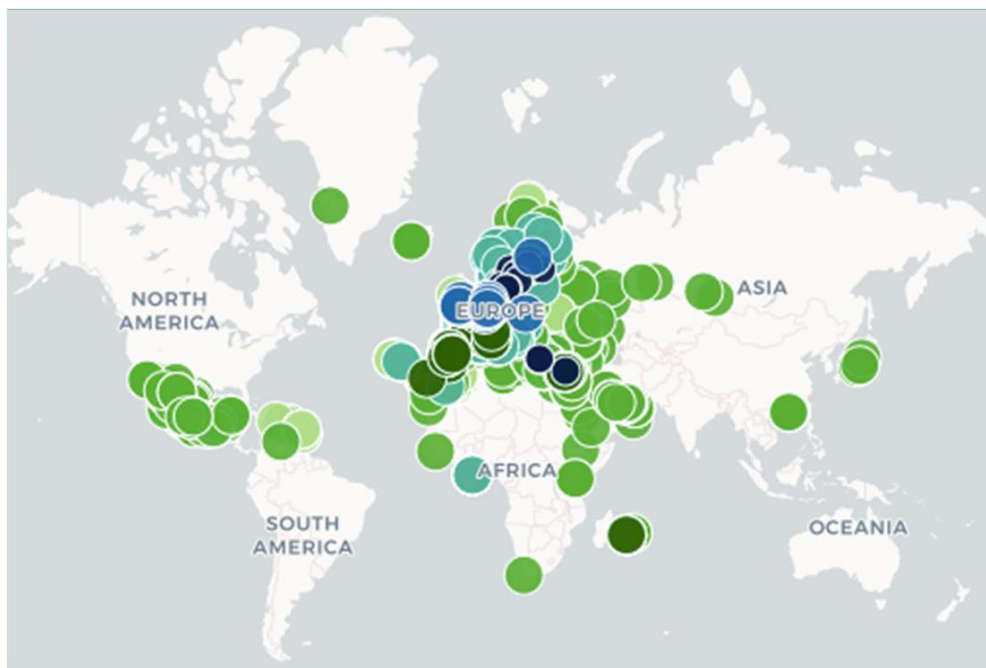


Figure 3. Distribution of Green Key Certified Tourism Establishments Worldwide (Green Key 2015).

A survey conducted by the organization a few years ago showed that its international recognition and branding are, in fact, some of the strongest points of the program (Green Key 2015). Over time, the program was recognized by the GSTC, UNWTO and UNEP.

The current criteria catalogue includes imperative as well as guideline criteria with compliance for the latter being voluntary to a large extent. Businesses do not immediately have to fulfill all of the requirements, and, in fact, most managers that responded to the survey in 2015, found the criteria of all 13 areas manageable or easy to comply with (Green Key 2015). Nevertheless, the organization is perceived to have high standards and the juries are respected, consisting of representatives from ministries, NGOs, and industry professionals. Compliance is verified by well-trained Green Key auditors and third-party auditors, ensuring high credibility. The Green Key currently has national operators in 40 countries, so many of the businesses going through its process can receive support in their own language and their contacts are familiar with the national legislation, customs, and practices (Green Key 2022). The non-profit and non-governmental nature of the backing organization, the Foundation for Environmental Education, provides for additional credibility and is highly appreciated by many hotels looking to get certified (Jaecker 2022).

Because of the organization's non-profit nature, participation costs are comparably low. For example, while hotels of more than 300 rooms in Portugal only pay €1,000 annually for the Green Key, membership fees of the Green Globe are at €4,500 (Green Globe 2022; Green Key 2022). The Green Key fee includes several different marketing tools and opportunities. A certified business is promoted on social media and its website, through a newsletter, and has the chance to participate in the best practice competition (Green Key 2022). Moreover, awarded establishments are added to a database for different Online Travel Agencies and will receive the eco-labeled symbol from Google when looked up online – again an aspect appreciated by certified hotels (Jaecker 2022). Green Key's long-lasting experience is also among its major strengths and quality features. Its continuously growing knowledge base is shared with applicants and certified businesses on a regular basis. For the above-mentioned reasons and

many more, 97.3% of the surveyed managers stated they will continue with the Green Key scheme (Green Key 2015).

4.1.2. Weaknesses

Some certified businesses complain about the certificate being valid for 12 months only. Given the process of achieving all requirements usually takes time, many businesses can only hold the certified status for a few months each year (Jaecker 2022). Moreover, although the organization and national operators try to take into account national circumstances and country-specific realities, they cannot consider every aspect of a business' situation. Businesses that are situated on islands, for example, are still expected to comply with the same criteria as all others, even though some are harder for them to satisfy.

Some managers also shared that the certification was not followed by creation of repeated business, improvement in the relationship with the local community, and attraction of new customers (Green Key 2015). With other programs, hotels may be able to experience these benefits much sooner. In addition, although there are quite a few marketing opportunities, their quality was criticized; 10% of the survey respondents said the visibility of the label (online/media) was very poor (Green Key 2015). In fact, Green Key site managers felt that, in general, marketing and visibility could be improved – “they are missing publicity on a national and international level” one of them claimed (Green Key 2015, 11). A comparably high number of respondents was dissatisfied with the promotional tools such as brochures and flags and the communication tools such as press releases or videos (Green Key 2015). The procedure was also taken issue with. 11.8% of the respondents and some of the hotels interviewed for the individual work project mentioned that the application and renewal process is too long, too complex, too bureaucratic, and not flexible enough (Green Key 2015; Jaecker 2022). However, weaknesses relating to marketing and visibility can be compensated by increased promotional efforts of the awarded hotels.

Although global recognition and Green Key's wealth of experience represent strong benefits, it is a little unfortunate that with the Green Key certification IC Lisbon will not be able to state they are the first or only hotel in Portugal or Lisbon that has been awarded this particular certificate. With other programs and certificates this may be the case and would make for great marketing material.

4.1.3. Opportunities

A great opportunity of the Green Key Program is that a business can work its way up different levels, Bronze, Silver, and Gold, and that way, set itself apart from competitors. Its current catalogue includes 13 categories and 130 criteria – compliance will help hotels prepare for the future and regular revision of the catalogue ensures a hotel keeps up with new trends, expectations and standards without having to do extensive research itself. Moreover, the recent release of new criteria and explanatory notes (2021) indicates that the effects of the pandemic were already taken into account. Other organizations have not yet updated their standards.

The research that this work is based on has shown that certificates of global reach and recognition, such as the Green Key, have one major advantage over other, less known certifications. Issuing organizations are hopeful that proof of sustainable business such as certifications will become quality displays to an extent where they may complement hotel star rating, thus enhancing visibility and desirability of such a label. If this were to come true, global standards and certifications are more likely to get chosen for display.

4.1.4. Threats

One of the largest threats that the Green Key currently faces is fierce and increasing competition (e.g., Green Globe, Travelife, EarthCheck). It is already difficult for hotels to keep an overview over the different schemes and programs and to select the right one for themselves. Especially the certifications which cover a broad set of areas may be challenged by other general labels

and programs. Just as much as existing competition, new entrants launched on the global market pose a threat to the success of the Green Key and certified hotels.

Overcrowding is another risk that Green Key pursuers will have to consider. With more than 3,500 businesses being certified already, at some point in the future, hotels may be expected to be certified and will not be able to distinguish themselves from others by achieving the Green Key. The fact that the certificate is available everywhere in the world and that holiday parks, restaurants, attractions, and other tourism establishments are also eligible for the Green Key further enhances this risk.

Unfortunately, so far, guests do not seem to be much aware of the Green Key (Green Key 2015). While they may care about the hotel having a label and the measures that they can observe themselves, all non-visible requirements a hotel needs to fulfill in order to get the Green Key, will not positively influence their booking decisions. Although the segment of eco-friendly travelers is growing, it may be a while until it is large enough and there is potential it may grow a hotel's business. Expected financial benefits because of water and energy savings, may also not get achieved as planned. Therefore, return on investment is not yet certain nor foreseeable.

4.2. Green Engage Platform – A SWOT Analysis

To get certified by Green Key, it is crucial to measure environmental indicators and evaluate the hotel's sustainability progress against the annual forecast targets of each indicator. Among these important indicators are reduction of carbon emissions, water consumption, energy consumption, and waste management. IC Lisbon uses Green Engage as its main tool for measuring sustainability indicators. Another tool that is used by the hotel, although not on a daily basis, is HERO which was launched by IHG this year. With this tool the hotel not only collects data of energy consumption, the tool also recommends the most suitable energy efficiency measures and compares the hotel's energy consumption performance with other

hotels of the chain. To evaluate the key strengths and weaknesses of IC Lisbon's main existing sustainability tool, a SWOT analysis was conducted. An overview is given in Table 5.

Strengths	Weaknesses
• Used by over 6,000 hotel properties • Strong reputation of international scale • Enables IC Lisbon to manage its impact on the environment and set projected targets for each year • Access to annual reports • Data collection on sustainability indicators • Carbon, energy, waste and water are listed on the platform with available data provided	• Exclusive for all global hotels and resorts under the company IHG • Only four indicators are shown on platform and measured per month and per year • Lack of data availability on measuring each indicator per guest, per guestroom, per guestroom per day and per conference room area per hour • Missing data of waste generation for 2019 and carbon consumption for 2022 • Only the projected target of energy for 2022 was displayed on the platform • Missing information regarding other hotels' statuses on the platform
Opportunities	Threats
• Complete overview of all measurements • Easy data comparison • Consumption data inserted by the hotel into the platform • Comprehensive list of 200 innovative green solutions shown on the platform	• Emerging competitive tools • Unforeseen technological outages

Table 5. SWOT Analysis of Green Engage Platform (Own Work)

4.2.1. Strengths

Green Engage is an online environmental management system owned by IHG. Over 6,000 hotel properties from 100 different countries currently use this tool to measure and manage their impact on the environment. The tool has gained a strong reputation of international scale that promises hotels to make their services offer greener, run their daily operations in a more efficient and eco-friendly way, choose the best sustainability actions for their facilities, and increase the loyalty of their customer base interested in responsible travel.

Another advantageous strength is that Green Engage enables IC Lisbon to manage its impact related to environment by giving access to detailed annual reports generated on the platform and allowing the hotel to see how well it performed with regards to reducing the consumption for each environmental sustainability indicator. Using this tool, the hotel can

collect data on sustainability indicators and evaluate their performance on a monthly and annual basis. Thus, the hotel can choose any year to generate and analyze the report. The indicators, namely carbon, energy, waste, and water, are listed on the platform with respective data from the current and previous years. The hotel currently measures indicators per month and per year such as the amount of carbon emissions, the amount of energy being consumed, the amount of water being consumed, the total amount of waste produced, and the amount of waste diverted from landfills. All these indicators demonstrated to be objective, measurable and reliable with accessible data.

Besides obtaining a complete report for each year and collecting data from the platform, the hotel can set concrete projected targets, expressed as percentages, aimed at reducing the consumption of each indicator available on that platform for each year and keep track of their performance in order to attain those targets. Given the fact that global hotels contribute significantly to a large amount of waste generated every single year as well as massive amounts of both energy and water being consumed and a tremendous increase in carbon emissions, setting realistic targets would certainly aid the hotel in achieving its sustainability goals in the long-term, adopt more sustainable practices in all its facilities and areas of the hotel, and develop new innovative sustainable solutions to achieve a positive contribution to the people and planet. One competitive tool that does not include the target-setting feature is Hilton's "LightStay", for example. Hilton designed this environmental and social management system so all Hilton hotels can measure and keep track of their sustainability performance regularly, generate reports regarding their performance metrics, measure the social impact based on volunteer work and charities, and compare their performance against other hotels of the same brand (Stories From Hilton 2019; Hilton 2020). However, "LightStay" does not allow hotels to set targets for further improvement.

4.2.2. Weaknesses

Green Engage is exclusively for all hotels and resorts across the globe under the company IHG. IC Lisbon uses it as the main and preferred tool for measuring its sustainability indicators and keeping track of its sustainability performance over time. Unfortunately, the four main indicators listed on the platform are measured only per month and per year. Thus, the tool lacks the data to measure each indicator per guest, per guestroom, per guestroom per day and per conference room area per hour. These would have allowed for deeper insights and comparisons, for example, of how much is consumed per guest and per guestroom with the consumption of each indicator per month.

Energy consumption, general waste and waste diverted from landfills, water consumption, and carbon emissions are the most common indicators seen on the platform. But other recommended indicators, such as the amount of renewable energy sources per year, the amount of food waste per month and per year, the amount of food being composted per month and per year, the amount of reused water for other purposes, and the waste recycling rate per year, are not clearly shown nor measured on the platform.

Regarding the waste generation data, the hotel was able to measure the total waste generated as well as the waste diverted from landfills per month and per year. However, the tool did not indicate the composition of waste per category (e.g., food waste, paper, glass, metal, cardboard, and cooking oil) which could be relevant for further analyses. The data of waste generation for 2019 and carbon consumption for 2022 were not available on the platform. As a result, no comparison with the waste performance of 2022 and carbon performance of 2019 was possible. As stated by José during an interview, the annual projected targets to reduce consumption of each indicator should have been displayed on the platform, but only the target of energy reduction for 2022 was shown, -0.3% respectively. The annual forecast targets for carbon emissions, waste and water had not been explicitly displayed on the platform as well.

This led to the hotel being unable to see whether its performance is on the track to a better future or not, in other words, if it is contributing positively to the environment and community.

Another weakness is that some hotels have not yet uploaded their status regarding their sustainability performance for the current year. Some were unable to attain their own targets or are still missing their consumption data for one or more months. Since there is no severe punishment for uploading data at a later stage, the platform will never force those hotels to submit their status information into that platform. With the incomplete information on the platform from the hotels' side, it would be more difficult to compare IC Lisbon's sustainability performance with other hotels from IHG. Moreover, as the tool is IHG specific, comparison with hotels from other brands is also difficult.

4.2.3. Opportunities

As previously said, the hotel has access to information on data consumption of each indicator per month and per year. The platform provides a complete overview of the current and forecasted reduction targets of each indicator for each year, the variation change expressed as percentage per month from the previous year to the actual year, and the year-to-date variance percentage that goes from the beginning of the current year to the date at the latest. Moreover, it shows the total usage amount of each indicator per year, the total consumption of each indicator per month for the respective year, the maximum usage amount target of each indicator for the specific year, and the consumption amount target of each indicator per month. When generating a report for each indicator of any particular year, the data provided on the platform are shown as simple bar charts which gives the hotel the opportunity to easily compare the performance of each indicator between the current month with the previous month and the monthly usage target as well as assess the progress made from the previous year to the current year. All indicators are measured in their own metric units. The hotel can insert its current

monthly consumption data of each indicator into that platform which would then be used to analyze and evaluate its progress over time.

Moreover, the platform offers the hotel a comprehensive list of innovative green solutions that summarizes realistic actions the hotel can take to be greener and more eco-friendly as well as to reduce its impact on the environment. To be exact, there are 200 solutions in total suggested; the hotel can pick the ones most effective to implement in all areas and facilities of the hotel (Better Buildings n.d.). At least eight areas of hotel operations are covered in those solutions, namely energy, water, site, building envelope, mechanical, operations and processes, materials and products, and waste (Better Buildings n.d.). Great examples of suggestions are to provide all staff members with regular training programs on environmental issues, encourage staff members and guests to use alternative public transportation modes instead of cars, reduce paper use at the reception, and to install leak-detecting water systems and solar panels for the roof of the hotel building. As a result, the platform and its content serve as a guideline for a hotel's actions. Those managing it are always presented with new ideas on how to further improve the hotels' operations and will be able to evaluate efficiently what action and measure will have the greatest effect at a specific point in time.

4.2.4. Threats

One of the threats for Green Engage is emerging well-recognized competitive tools with more technological advances that allow the hotel to discover more indicators in further detail and to analyze them more deeply. "Hotel Carbon Measurement Initiative" and "Hotel Water Measurement Initiative", both abbreviated as HCMI and HWMI, would further enable the hotel to indicate how much carbon emissions and water have been consumed per guest, per guestroom per day and per conference room area per hour. These indicators are recommended for the hotel to measure and evaluate its sustainability progress and help to achieve and maintain the Green Key certification. The hotel can also compare its carbon emissions performance with

the average carbon emissions by region utilizing the HCMI tool. Both these tools are internationally recognized; over 24,000 global hotels use the HCMI tool, whereas the HWMI tool is currently used by more than 18,000 hotels across the globe. These figures are much higher than those of Green Engage which is only used by around 6,000 hotels. Other tools, such as the “Hotel Waste Measurement Methodology” and the “Zerowasteometer”, would also allow the hotel to compare its waste performance against its main competitors, determine the total annual amount of food waste, and set realistic projected targets for reducing waste for the respective year.

Another possible threat are unforeseen technological outages. Although the hotel has been using Green Engage for more than seven years without any technological issue, unexpected outages could result in internet issues and platform downtime. Whenever there is an internet issue, it becomes more difficult to sign in on the platform to update the hotel’s data and it may take some time to fix that issue. If the platform crashes or its server is unavailable at a time, the hotel may be forced to shut down all programs and restart all computers. This could potentially lead to the loss of important data, namely the consumption data, bar charts, reports, and projected targets. To prevent these unplanned outages, it is recommended for the hotel to have a recovery plan in place and for data to be stored in a safe pen drive or a portable hard drive.

4.3. Best Practice Implementation Process

To select the best sustainable practices for IC Lisbon, it is necessary to find out all the information about the Green Key certification. Most of it is displayed online on their website: www.greenkey.global. There you can find not only the requirements for the certification but also all necessary steps that must be considered to achieve the desired results. For each country, the application process might differ. Therefore, the applicant should focus on the procedure

defined for the country where his or her business is located. The general application process consists of three parts:

- 1) Sending the application documents,
- 2) Receiving on-site audits,
- 3) A decision by an independent entity (third-party verification) (Green Key 2022).

These teaching notes focus on the best practices that should be applied at the hotel to pass the on-site audit. To understand which action the hotel needs to take, the Green Key organization created six different categories of establishments which are displayed below:

- 1) Hotels and hostels,
- 2) Campsites and holiday parks,
- 3) Small accommodations (BBs, eco-lodges, eco-farms, etc.),
- 4) Conference centres,
- 5) Restaurants,
- 6) Attractions (museum, visitor/ interpretation centres and theme parks) (Green Key 2022).

IC Lisbon belongs to the first category, hotels and hostels. For these types of establishments, there are requirements centered around economic, social and governance problems. They are divided into 13 areas: (1) Staff involvement, (2) Guest information, (3) Water management, (4) Washing and cleaning management, (5) Waste management, (6) Energy efficiency, (7) Food and beverage, (8) Indoor environment, (9) Green areas, (10) CSR, (11) Administration, (12) Green activities (see appendix).

In each area, numerous requirements must be fulfilled to obtain the certification. The requirements are also divided into two types: imperative and guideline. This case study focuses primarily on imperative criteria (I) because they must be met before getting the certification. Which guideline requirements (G) need to be completed depends on the number of years that a business is involved in the Green Key program. Since this is the first time IC Lisbon is going

apply for the Green Key, the hotel does not have to focus on all guideline requirements at once, but it should be ready to comply with them in the near future to not lose the certification.

4.3.1. Internal Audit

As it is already predefined what must be achieved or met, the applicant should make an internal audit based on that. This means that IC Lisbon should create a custom framework based on the Green Key requirements for a better overview of its current status, improvements to be made (applications of best practices) and final status. For this process, Excel by Microsoft is recommended for ease of use. The table with all the requirements in the application should be like the table in Appendix 17. Moreover, applicants who are more tech savvy can use applications like Trello or Notion for better project management. The reason why the company should analyze its current practices in this way is to be able to clearly identify areas of improvement and take the correct actions necessary for the certification.

4.3.2. Framework for Best Practice Implementation

After completion of the internal audit, the establishment should be able to recognize which requirements are not fulfilled by its current practices. The ones that are not currently accepted as fulfillment should be replaced by the practices that will meet the criteria. For the process of selection and implementation of the practice, a new framework based on the factors of the PESTEL analysis was created. Although it is not applied to a specific product or service, it incorporates the same factors as all these dimensions need to be considered before measures are taken. It is used in this case study for the analysis of the best practices and their limitations in the following areas: political, economic, social, technological, environmental and legal. In each area, the internal and external factors are going to be investigated. An example of how this framework could be applied is displayed in Appendix 18.

4.3.3. Analysis of the Best Practice

Political factors

The first factor to be aware of is the political one. In hotel companies, one of the internal political factors might be brand standards. These internal policies must be followed by all the hotels within the same company's brand in every country they are operating. One of the best examples is the soap bars in the InterContinental hotels. It is a standard that the company's highest executives only can change; therefore, the managers of the hotels might not be in the position to withdraw them from daily usage. Due to this fact, the managers responsible for the best practice implementation have to bear in mind that their actions are limited by and need to respect all internal policies even though the soap bar may not be very sustainable.

In terms of external political factors, various international political agreements like the Parisian one have the greatest influence when it comes to the implementation of sustainability practices (UN 2022). These agreements have a big influence on the government's view of ESG. Thanks to this, they can subsequently create various policies on restrictions or make an incentive in order to achieve the set ESG goals. The best example is electric automotive company Tesla and their use of regulatory credit in the USA, which they can get by selling only electric vehicles. These credits help them in increasing revenues because they can sell them to automotive companies that are not selling electric vehicles (Kharpal 2021). Another example are incentives in the form of subsidies for the purchase of an electric car in France or Germany (Hurst 2022).

Economic

Nowadays, almost every company has set as a goal to not only provide a good product or service but, most notably, to be economically sustainable. That means being able to cover all the costs but to also make a profit. In order to be able to do that, every decision that costs money should be thoroughly analyzed first. An example of an important business decision is the investment

in solar panels or heat pumps. Even though the initial investment might seem overwhelming, the outcome of this decision can be very beneficial in the long run. Energy costs can be reduced significantly, and the hotel can become energy self-sufficient. However, first of all, there must be sufficient capital, so this can be considered an internal factor. In terms of external economic factors, there is the price of solar panels, which can increase based on demand, and the hotel should monitor this.

Social

The social factor is another crucial aspect of the custom framework. It is clear that every service and product provided by the establishment should be approved by guests. With that being said, the best example might be modern technologies like tablets in the CitizenM hotels that can control the whole room and also be a source of all essential information. They can replace every button in the room and every information card. Thus, implementing such devices can be a more sustainable and practical practice that a lot of guests might welcome. Still, the establishment should analyze and ask their audience before implementing. IC Lisbon guests might not accept it because they differ from CitizenM guests in characteristics like age, lifestyle, and income level. We can assume that there are, for example, older guests at InterContinental hotels and resorts that are not as tech-savvy. This might represent an external social factor that needs to be considered.

In terms of internal factors, the culture of the organization is very important. Therefore, whenever a new practice is implemented at the hotel, every employee should be made aware of it and this practice should also be in line with their values.

Technological

The fourth factor is based on technological incentives and innovations. The establishment should be aware of the fact that there is no end to innovations. This means that every best practice implemented today can be outdated even in the matter of few months. That is why

every company wanting a competitive advantage must be actively researching new technologies or best practices. It is not enough to just implement the best solution that is available at present based on the competitor that you are comparing yourself with; it is more important to be continuously invested in a given problem and to get ahead of the competition. One example is online check-in platforms for guests. There are still a lot of hotels without this technology that can help with long lines at the reception. For this technology, the external factor might be a lack of support from application developers for editing language mutations for a given country. Internal limitations arise, for example, through an outdated personal management system (PMS) that does not support the integration of new technologies.

Environmental

The fifth aspect is centered around the environment. Every implemented practice should align with changing climate and, therefore, sustainability. For instance, the establishment cannot implement heat pumps or solar panels in an environment where the outcome of this integration would be ineffective. For better imagination of an external factor, it is not adequate to implement solar panels in an environment with no sun for most of the year. Nor should solar panels be built on a building that is not facing the sun.

Legal

Lastly, suppose the establishment is going to do a huge reconstruction to implement solar panels. In that case, it is imperative to comply with local legislation and apply for all necessary permits to prevent fines and new renovation attempts later on. This is especially a problem when it comes to construction work. Sometimes it might seem that if you want to install new technologies in your building, you do not have to ask anyone, but that is not the case in most countries. Even though the building is in the company's freehold, in every developed country, it is necessary to obtain building permits to change the disposition of the building and many

changes need to be inspected afterwards. As for legal internal limitations, it is mainly the consent of all important company bodies such as the board.

4.4. Expected Influence of the Green Key on Guests' Booking Behavior

To understand the influence of a certification on guests' decision-making process, multiple studies were conducted (Peiró-Signes et al. 2014; Font 2002; Lamb et al. 2006; Peiró-Signes et al. 2012; Crespo et al. 2018). For mid-priced and luxury hotel guests, it was found they are more willing to pay a premium for a hotel's green practices than economy hotel guests (Kang et al. 2012). Considering IC Lisbon belongs to the luxury category, these findings are very reassuring. However, to understand what IC Lisbon can expect from the Green Key Certification in terms of guest engagement and possible adherence, specific factors should be taken into account. Firstly, the main factor is the average profile of an IC Lisbon guest. Considering the hotel usually accommodates business and leisure travelers, both within the luxury category, these are the main two segments to be addressed in this study. Especially within the leisure segment, most guests belong to the "Baby Boom" and "X" generations, which is why they will be discussed more deeply. Baby Boomers are those born between 1940 and 1964, while Generation X apprehends those born from 1965 to 1980 (Wan and Abdullah 2015). Moreover, one of the reasons IC Lisbon wishes to obtain the Green Key Certification is so they can more easily establish partnerships with corporate travel departments, particularly with airline companies, which often demand hotels to be certified before they book hotel rooms for their respective crews.

4.4.1. Business Travelers

Most business travelers represent a company when traveling for work. Those companies, in turn, might have Corporate Social Responsibility policies that demand the hotel in which its employees stay to operate within these policies. In that sense, a certification, in this case the Green Key, acts as a stamp on how the hotel's corporate values match the organization's values.

As for the business traveler per se, a study on the outlook of business travelers towards a green hotel found that the majority of guests agreed that hotels should promote and are willing to participate in green practices. However, only one fourth of the respondents would pay a premium for green products and has a strong preference for being accommodated in a green hotel (Gaibee 2014). There seems to be, in this segment and according to that study, a certain resistance: although the respondents agree with hotels going green, they are not willing to renounce comfort and luxury.

Moreover, the fact that a business traveler may represent a sustainable company does not necessarily translate to greener behavior as a hotel guest. It has been shown that context plays an important role in influencing pro-environmental behavior (Dodds et al. 2022), meaning business travelers might not have the same sustainable attitude outside the workplace. However, there is contradicting evidence implying that business travelers travel more sustainably than leisure travelers (Dodds et al. 2022). This could be tied to the employer's sustainability policies. Considering the inconsistent evidence, research on business travelers' sustainable behavior is still too limited to allow for precise conclusions. This means it is equally unclear how this segment would respond to green certifications, apart from the existing demand from companies with certain CSR requirements, as mentioned in the paragraph above.

4.4.2. Baby Boomers and Generation X

Despite the general assumption that younger generations are more environmentally conscious, studies have shown that sustainability is becoming a common interest across all generations (Ad Age 2020; Ham et al. 2022). Baby Boomers, because of their overall financial capabilities, were found to be “at the heart of green consumption”, while Gen X consider themselves now more environmentally aware than they were at a younger age (Coughlin 2018; Ham et al. 2022). Moreover, according to a study on variables affecting hotel customers' eco-friendly decision-making process, older customers have a stronger willingness to pay more for a green hotel (Han

et al. 2009). Baby Boomers, followed by Gen X, have seemingly greater purchase intentions in green products/services, implying that green purchase intention and age have a positive relationship – the older the consumer, the more likely they are to make an environmentally friendly purchase (Ham et al. 2022). However, that could be, again, explained by the fact that older generations possess a higher budget and are, therefore, able to weaken their intention-behavioral gap. This theory is supported by a study that states that younger generations are, in fact, more knowledgeable regarding sustainability concerns and present a sympathetic mindset in regard to green products, but it does not induce actual purchases due to insufficient financial abilities (Cheung and To 2019; Ham et al. 2022).

Although some researchers found that age-related differences in purchasing behavior and decision-making are true (Evanschitzky and Wunderlich 2006; Han et al. 2011), others show that age, among other variables such as education and income, do not influence customers' environmentally friendly intentions as much as gender and eco-friendly attitudes, for example. Because of conflicting evidence, a study suggests that, in a green consumption context, segmentation by age or generation is not compelling (Ham et al. 2022). That being said, despite these inconsistent findings and considering marketing segmentation principles, IC Lisbon should focus on studying the age/generation variable and how to better reach each of them.

Baby Boomers particularly, are found to be more interdependent and present greater ethical standards, which implies that they have a higher tendency to prioritize social causes over green product utilitarian value (Ham et al. 2022). These findings suggest that successfully reaching these segments and influencing their green purchasing behavior could depend mostly on communicating the green attributes and their emotional benefits, a concept that will be further developed in the following subchapters. Therefore, what this subchapter suggests is that it would be wise for IC Lisbon to adapt their green positioning to the discussed segments, by not only resorting to their empathetic tendency, but also by simplifying information in order to

avoid feelings of confusion and disorientation caused by the numerous terminologies associated with sustainability.

Generation X, although aware of and concerned with environmental issues, is said to be more skeptical of eco-labeled products, which leads to a less active role in regard to purchasing green products and services (Ballantyne and Packer 2013; Wan and Abdullah 2015). A solution on how to better reach and motivate this segment is to communicate evident proof of the efforts associated with the eco-label, in this case the Green Key, a subject that will, once again, be more deeply explained in the subchapters to follow.

As for maximizing the positive effect a certification can have on bookings, the discussed consumer segments should be at the center of a green marketing campaign. This relates to the communication of the awarded Green Key to new potential customers, as well as loyal guests. Considering the latter usually present a higher probability of not only returning, but also spreading the word, a case study found that the intention of making positive recommendations and revisiting a hotel is more likely to exist if the hotel presents a green image (Lee et al. 2010). However, as the results of a study from the University of New Hampshire (Barber 2014) suggest, “green” behavior patterns differ in intensity from one green guest to another, and so each “shade of green consumer” should be addressed with a segmented strategy in order to increase marketing outcomes. The same study highlights that there is still a need for educating guests in terms of the changes they will face: what is beneficial about new, more environmentally friendly practices as opposed to traditional practices. This happens because intention does not always incur behavior, especially purchasing behavior. For five-star luxury hotels, such as IC Lisbon, this is particularly true, since they are faced with the dilemma of trying to establish more sustainable practices and, at the same time, pampering hotel guests with unlimited and luxurious services (Barber and Deale 2014). The following sub-chapters

discuss the intention-behavior gap and how to overcome it, the relevance of eco-labels and the importance of educating the guest.

i. Green Positioning: Translating Intention into Behavior

Existing research explored the relationship between green practices, green image, environmental consciousness, and the behavioral intentions of customers in a certified hotel context. It was found that customer perceptions of green practices have a direct positive effect on a hotel's image, which, in turn, positively affects customers' behavior intentions towards certified hotels (Crespo et al. 2018). Moreover, green perceived value also indicates a positive effect on "green trust" and green purchase intentions (Trang et al. 2019; Chen and Chang 2012). However, due to the significant gap between consumers' environmental intention and actual behavior highlighted by many studies, marketing plays an important role in translating one into the other. Considering marketing strategies are divided in three steps - segmentation, targeting, and positioning - and that the first two steps were examined above, this subchapter will discuss the latter.

Considering the greatest challenge for the hotel industry today is to create tangibility from the intangible hotel experience (Kayaman and Arasli 2007; Barber 2014), marketers should appeal to the functional, environmental, and/or emotional benefits of green positioning into hotel operations to create a green hotel image (Barber 2014). Hu (2012) suggests that to direct consumers toward sustainable products, increased information on the offerings and the perceived benefits of choosing these products is critical.

Moreover, the effectiveness of said positioning depends on both functional attributes and emotional benefits (Hartmann et al. 2005; Lee et al. 2010). Functionality alone will not fully secure the green positioning's success, as it is equally possessed by the competition. An emotional-benefit-based approach will be determinant in a green positioning scenario, meaning advertising should appeal to the emotional benefits a guest feels by choosing a greener hotel,

while also proving to them that their decision makes a positive difference in the environment (Lee et al. 2010).

ii. The Importance of Eco-labelling

The communication of green practices can often fail in terms of marketing results due to the lack of credibility. As quoted, consumers will look for tangible demonstrations of the hotel's commitment toward green practices (Barber 2014), and eco-labeling allows customers to identify green products, having, therefore, been used by businesses as a marketing tool (Lamb et al. 2006). Although hotels can appropriately communicate their sustainable practices, there can be a certain skepticism from consumers on whether or not they are truly committed to these promises. In that sense, a certification provides credibility, besides serving as a differentiator that leads to enhanced customer awareness (Schubert et al. 2010; Zhang et al. 2012b; Peiró-Signes et al. 2014). It does not only communicate the implementation of green practices, but also, and more importantly, enables consumers to distinguish actual sustainable efforts from “green-washed” products and services (Crespo et al. 2018).

A study on Spanish hotels shows that one expected benefit from an environmental certification, in that case the ISO 14001, is the improvement of sales by providing a third-party sustainability credential (Peiró-Signes et al. 2014), and another research on the same certification found amplified economic performance in certified hotels when compared to non-certified hotels (Peiró-Signes et al. 2012). Indeed, environmental practices are positively related to performance through the mediating effect of higher customer satisfaction and loyalty (Kassinis and Soteriou 2003; Peiró-Signes et al. 2014). Further developing this concept, a study on the relationship between value and green attributes suggests that customers tend to more positively assess a hotel's value if the hotel presents green attributes, since they are related to a higher quality/benefit perception (Manaktola and Jauhari 2007), which contributes to the findings that perceived green image can enhance perceived brand quality and brand reference

(Liu et al. 2014; Crespo et al. 2018), in turn confirming the mediating effect previously mentioned.

Nonetheless, expressing the existence of a certification is not enough to communicate environmental dispositions. The expressive number of eco-labels and pro-environmental terminology can be confusing, which leads to many consumers preferring to ignore them (Font 2002; Lamb et al. 2006). A case study from green hotels in Vietnam suggests that there are two important factors in the development of pro-environmental intentions, which are customer benefit (e.g., sustainable products) and green characteristics (e.g., green landscape and architectural design), the first being ranked the most determinant factor. Therefore, innovating in these two areas can be an effective measure to communicate visible evidence of environmental practices, enabling guests to clearly identify the benefits (Trang et al. 2019). According to the same study, an eco-label represents and authenticates the level of performance of the hotel's sustainable programs, so hoteliers should aim for a high level of green certification and build their green image by communicating their eco-label. Another study adds that environmental labelling works as a compelling instrument in positioning a green product and creating a competitive advantage (Lamb et al. 2006).

iii. Educating the Guest

Literature says that sharing information about environmental issues and consequences is considered valuable in developing the guests' knowledge, awareness, positive attitude, and participation in green practices (Fukey et al. 2014). Moreover, the effectiveness of environmental programs depends on the customers' engagement and commitment, thus educating the guest is also a tactic of encouraging them to play a part in green initiatives. While eco-labels help customers identify green businesses, environmental awareness and knowledge justify to consumers the commitments attached to the eco-labels, thus guiding them on their decision-making process, whether that may be choosing a hotel or choosing to engage in a

hotel's green practices. It was found that the higher the consumer's awareness of a product's environmental performance, the more likely they are to buy eco-friendly products (Testa et al. 2015; Doksaeter et al. 2019). Additionally, besides not being aware of the positive aspects of green practices in the hotel industry, customers are frequently unacquainted with the negative consequences a hotel without eco-friendly policies can have on the environment, hence the need for hotels to promote environmental consciousness (Chen and Peng 2012; Crespo et al. 2018).

The lack of information will keep customers indifferent between certified and non-certified hotels, whereas familiarity with environmental issues will provide a reason for the guest to make a more sustainable choice. In that sense, a study suggests hotels should organize events, such as conferences, seminars or contests to better inform their guests regarding sustainability issues (Crespo et al. 2018). Besides, these events could act as platforms to not only reveal these issues, but also make known how the hotel is responding to them, thus promoting their efforts and the certification. By becoming certified, hotels position themselves to the environmentally conscious guest. However, to promote their green image and boost customer intentions and behavior, certified hotels should educate and actively make positioning efforts to persuade the less environmentally conscious market as well (Crespo et al. 2018).

Moreover, if product attributes and product greenness are seemingly independent from each other, consumers tend to choose based on product attributes (Ginsberg and Bloom 2004; Chen and Chang 2012), as they are improbable to compromise on traditional product value and quality for the sake of greenness (Chen and Chang 2012). To avoid this, it is important to make sure the consumer understands that green attributes - in IC Lisbon's case green practices - go hand in hand with the service quality by focusing on both the green and functional attributes. To reinforce what was mentioned in the previous subchapter, although eco-labels are powerful marketing tools, they need to be strategically communicated and followed by reliable, detailed information that guides the customer's purchasing decision (Testa et al. 2015; Doksaeter et al.

2019). There are studies that claim that insufficient or misleading information regarding eco-labels can have a negative impact on the purchasing decision (Kar Yan and Yazdanifard 2014; Doksaeter et al. 2019), as well as too much, too complicated, or unclear information (Doksaeter et al. 2019).

5. Conclusions and Recommendations

One major takeaway of the research conducted for this project is that in order to successfully change routines and processes and to create positive, long-lasting effects, a business needs to involve all its employees and several other stakeholder groups. Given the experience of IC Lisbon's core team and the support provided by the Green Engage team, the hotel was found to be well prepared to take on the challenge of applying for and going through the auditing process of the Green Key certification. The hotel's backing by a strong brand and parent company additionally facilitates the undertaking. Sustainability covers a range of aspects of environmental, economic, and social nature as was touched upon in Chapter 2. So far, IC Lisbon has done a great job attending to them, but will need to further expand its efforts to achieve and maintain the Green Key.

This case study explores several different areas and research questions of interest for IC Lisbon. The Green Key was determined to be the most suitable sustainability certification for this hotel. A SWOT analysis revealed a number of benefits, advantages, and opportunities that IC Lisbon is highly recommended to exploit. Some certified businesses criticize a lack of marketing provided by the organization. However, the hotel can well compensate for this lack by promoting the certification and its effort itself. IC Lisbon is advised to launch a green marketing campaign targeting their main customer segments. Communication of the award of the Green Key to all stakeholders, in particular the hotel's current and potential guests, is essential. As awareness of certifications and labels is still low among guests, educating them about the Green Key and what its pursuit entails is necessary in order to achieve expected

positive impacts. Messages should be kept short and simple to not overwhelm those unfamiliar with the vocabulary around sustainability and should include not just proof of said efforts, but also results that were already achieved. They should address guests' emotions and, at the same time, emphasize that the quality of the service provided remains the same or even improves when adapting procedures and facilities to be more sustainable.

Furthermore, to set itself apart from its competition, IC Lisbon may want to consider applying for other certifications that may complement the Green Key and create additional credibility. Given the Green Key is comparably strict and difficult to achieve, getting certified by other organizations should be easier. Another recommendation is to apply early and to follow defined procedures to reapply for the Green Key every year as well as to nominate someone to oversee the process to avoid the certified status lasting only a few months.

A detailed analysis of the current tools used by IC Lisbon to measure and track its sustainable efforts revealed a few shortcomings that the hotel is advised to address. Missing data for the consumption of carbon emissions of 2022 and the total generation of waste of 2019 should be updated and included in future analyses. To get a full overview of the hotel's sustainability performance and to be able to compare it to previous years, the consumption data of each indicator for the remaining months of 2022 need to be registered. Moreover, realistic targets for carbon, waste, and water for this year need to be set and tracked on the platform. The hotel can thereby evaluate and compare its progress per year regarding each of the indicators. Although the Green Engage Platform already provides great insight, the hotel should consider other measurements, too, i.e., measurement of each indicator per guest, per guestroom and per guestroom per day, to generate a complete report of the respective year and receive deeper insights into how much each indicator has been consumed per guest. In order to get a complete overview of the composition of waste per category, the hotel could calculate how much of its waste is made up of metal, glass, paper, cardboard, cooking oil and food waste.

Lastly, to significantly decrease the prices on electricity, innovative ideas regarding the best energy efficiency measures can be checked on HERO.

To successfully determine and implement the best sustainable practices, IC Lisbon should invest some time in analyzing the Green Key requirements. Once the hotel understands the entire application process and criteria, it can focus on analyzing its status quo and currently used practices to see if all conditions for obtaining the certification are met. If the hotel does not meet certain conditions, it should focus on those and find the most suitable sustainable practices to implement. This does not mean that the hotel should find the best solution currently used in the world. It means finding the best solution that IC Lisbon can implement without any limitations based on the analysis of the factors described in the individual part “Best Sustainable Practices in the Hotel Operations”.

In the event that the hotel achieves certification, it must not be satisfied with that and should continue to think about innovation and the implementation of new sustainable technologies in the future. The best sustainable practices can not only help the organization save money spent on efforts and achieving the certification but will also contribute to changing the perspective of people on sustainability matters worldwide.

Through working on this project, we learned a lot about one of the most important and pressing themes of our generation: Sustainability. We were able to further develop our knowledge about the hotel industry and the challenges it is currently facing, from retaining talent, to keeping employees engaged, attracting guests and maintaining loyalty. The InterContinental Lisbon is setting an example for a lot of other hotels in many of these areas. We wish its team all the best as they continue to build and follow their sustainability roadmap.

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D. Appendices

Case Study – Executive Summary

Through elaborate research on a variety of aspects around sustainability certifications, our team built a case study and provided actionable recommendations on how to achieve and maintain an international sustainability certification at the InterContinental Lisbon hotel. Pressured by our global society, current crises, and the competitive hospitality landscape in Lisbon and abroad, the hotel finds itself in need of a widely recognized eco-label that guides its sustainability efforts and serves as strong external signal and proof of its efforts for all stakeholders. More than 60 certifications were reviewed, the Green Key chosen as most suitable and thoroughly analyzed. Four key environmental sustainability indicators were identified, and two progress tracking methods and tools evaluated. To best inform about the implementation of best practices, a framework was developed that includes both the Six Sigma and PESTEL analysis dimensions. Moreover, more than 120 potential guests were surveyed and their perspective on certifications explored. This work informs InterContinental Lisbon of all benefits and risks that come with pursuing certification, characteristics of the Green Key, and tips on how to best achieve and renew it. In addition, the InterContinental Lisbon hotel receives argumentation support for communication with stakeholders, in particular its employees and guests.

a. List of Appendices - Vitória Müller Silva**1. Survey****Socio-demographic background****1. What is your gender?**

- ☐ Male
- ☐ Female
- ☐ Other

2. What is your age?

- ☐ 18-25
- ☐ 26-35
- ☐ 36-45
- ☐ 46-60
- ☐ 60 +

3. What is your nationality?**4. What is your current occupation?**

Please select the option that applies the best to your situation.

- ☐ Employed
- ☐ Unemployed
- ☐ Student / recent graduate
- ☐ Retired

5. What is your monthly household income on average?

- ☐ Up to 2.000 euros
- ☐ 2.000 - 5.000 euros
- ☐ 5.000 - 10.000 euros
- ☐ More than 10.000 euros

6. What is your highest level of education?

- ☐ High school
- ☐ Bachelor's
- ☐ Master's
- ☐ PhD
- ☐ Other

Personal sustainability efforts**7. Please select, from 1 to 5, the actions that you take in your household, where:**

1 - Completely disagree

2 - Somewhat disagree

3 - Neither disagree nor agree

4 - Somewhat agree

5 - Completely agree

If you are answering on your phone, please be aware that you have to scroll left and right for all numbers to show

- I recycle
- I take showers that are less than 5 minutes long and/or turn off the shower whenever not necessary
- I buy eco-friendly products (ex: recycled toilet paper, natural ingredients cleaning products...)
- I do not mind paying extra for a more sustainable product (ex: recycled packaging, fair-trade certifications...)
- I actively try to avoid food waste
- I mostly buy seasonal produce (fruits and vegetables)
- I am making an effort to reduce my meat/fish/dairy consumption
- I prioritize walking/biking/taking public transport over using a car
- I try to reduce the use of electricity whenever possible
- I try to educate myself about climate change and sustainability matters
- I vote for political agendas that include sustainability-related solutions
- I avoid buying from fast-fashion brands

Personal travelling habits

8. When travelling, what category does your hotel usually belong to?

- Economy
- Midscale
- Upscale
- Luxury
- I do not usually stay in hotels

9. Please place the following factors in order according to the influence they have on your hotel choosing process. Do so by selecting a number from 1 to 6, where 1 has the most influence and 6 the least.

For this question, please disregard price and any influence it may have on your decisions
You can only select one number per factor, as the objective is to create a ranking by placing each factor in a certain place.

If you selected "I do not usually stay in hotels" in the previous question, for the following questions, please refer to the times that you have, or to what you think would be your

answer

If you are answering on your phone, please be aware that you have to scroll left and right for all numbers to show

- ☐ Sustainability measures and/or certifications
- ☐ Reviews
- ☐ Location
- ☐ Hotel facilities
- ☐ Hotel stars
- ☐ Brand experience (you previously stayed at a hotel from the same brand)

10. Now imagine price was a factor in the previous question, in which position would you have placed it?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7

11. In what sense does price influence your decision?

Please select the option that applies the most

- ☐ I like feeling that the price I am paying is fair for the quality I am receiving
- ☐ I prioritize travelling low-cost
- ☐ I do not feel influenced by price overall

12. Please select one number for each of the following attributes according to the extent to which you are willing to pay extra for that attribute, where 1 means you are not likely to spend more on and 5 means you are very likely to pay extra for

For this question, please assume breakfast is included

If you are answering on your phone, please be aware that you have to scroll left and right for all numbers to show

- ☐ New hotel
- ☐ Great interior design
- ☐ Water and spa facilities
- ☐ Extremely well-rated breakfast
- ☐ Ecofriendly practices (whether the hotel has a certification or not)
- ☐ Well-located
- ☐ Sustainability certifications

13. To what extent do you agree with and would engage in the following sustainability measures during a hotel stay, where:

- 1 - Completely disagree
- 2 - Somewhat disagree
- 3 - Neither disagree nor agree
- 4 - Somewhat agree
- 5 - Completely agree

If you are answering on your phone, please be aware that you have to scroll left and right for all numbers to show

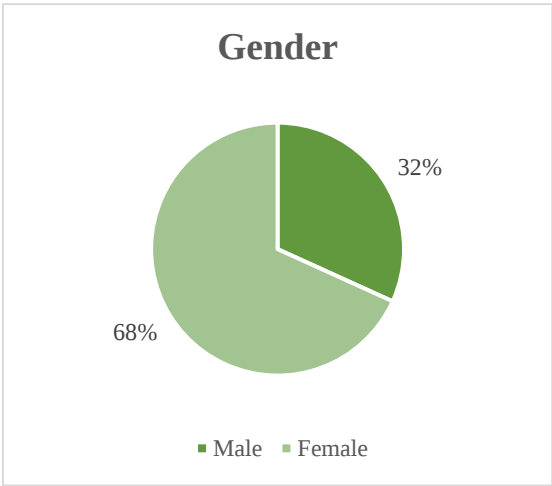
- Recycling bins in the room
- Refillable amenities (instead of travel-size)
- Eco-friendly amenities and cleaning materials
- Not washing the sheets/towels everyday unless the guest requires
- Window sensors that automatically turn off the AC if the windows are open
- Having solar panels and/or consuming mostly renewable energy
- Electronic billing/reduced paper usage
- Seasonal, mostly local food (even if it means you might have to go out of your comfort zone)

Previous experience**14. Thinking back on your recent hotel stays, what are some sustainability-related measures that you noticed the hotel was applying?**

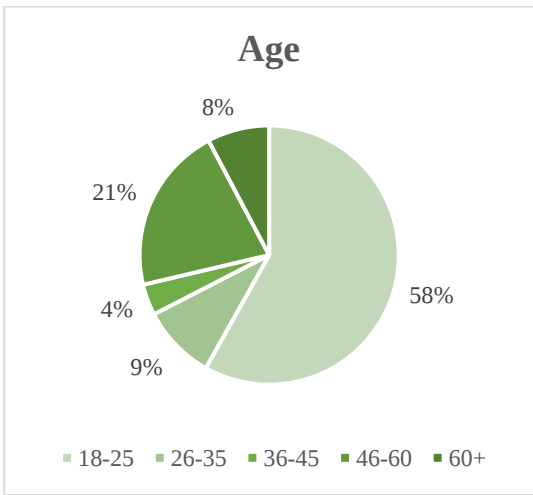
- Refillable amenities
- Not washing towels and sheets everyday unless guest required
- Recycling bins
- Sustainability guides/information available to the guest
- Reusable room key cards
- I did not notice any measure
- Other

15. Thank you for your participation! Any additional comments you would like to give?

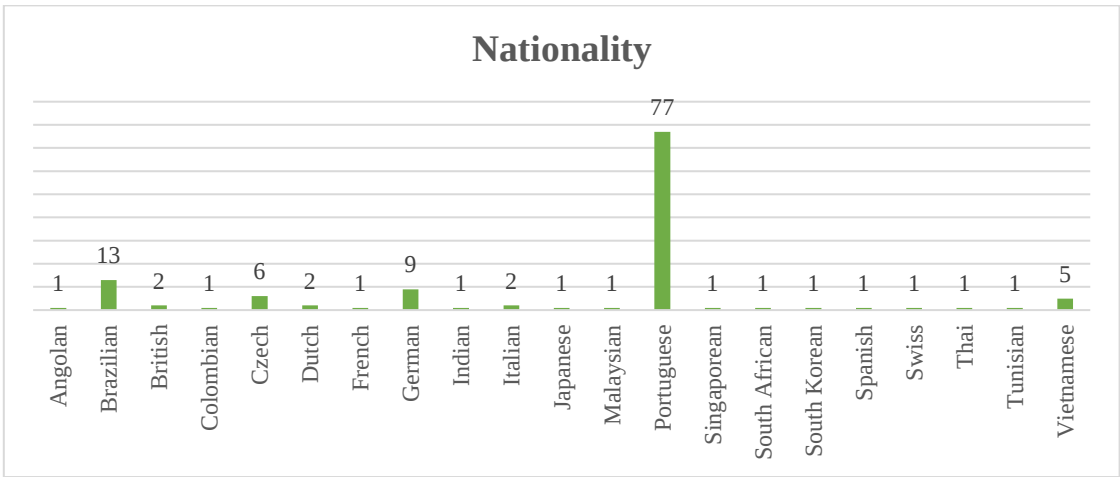
2. Gender Pie Chart



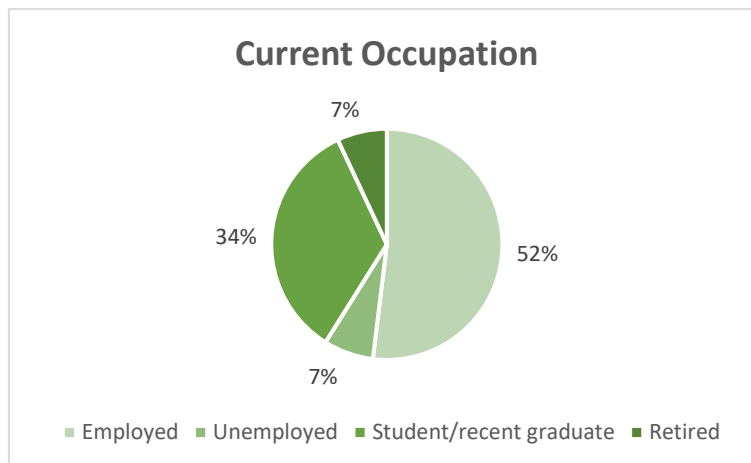
3. Age Pie Chart



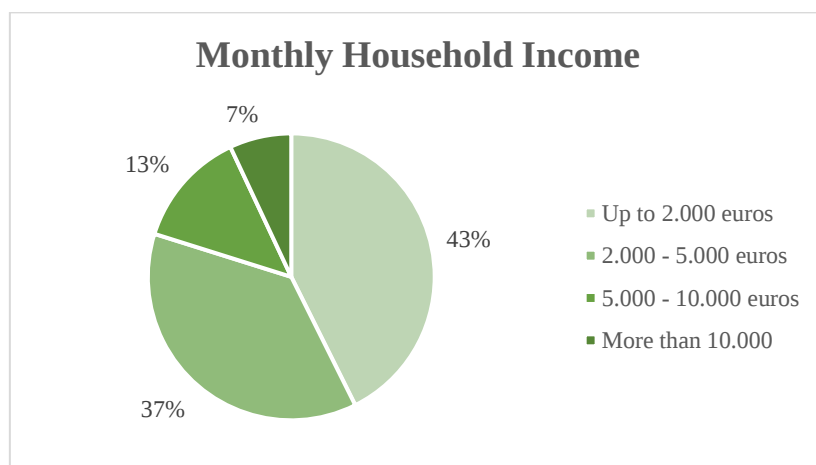
4. Nationality Bar Chart



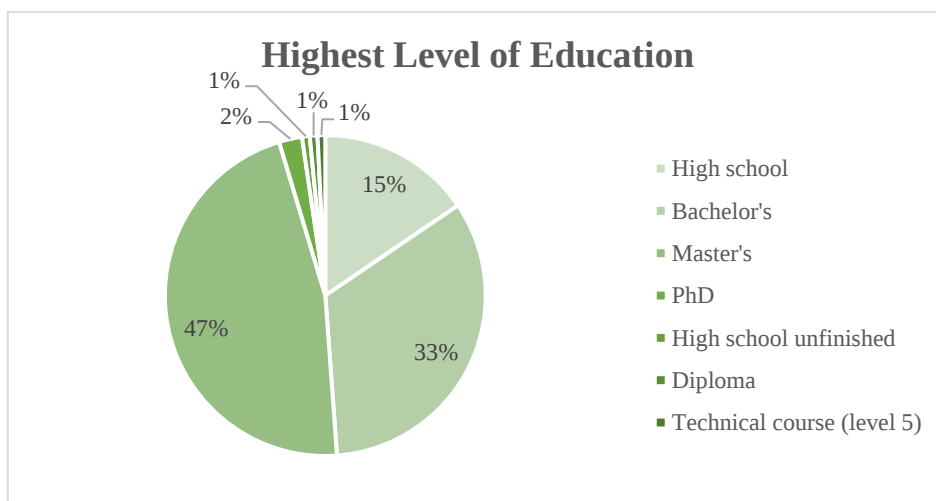
5. Current Occupation Pie Chart



6. Monthly Household Income Pie Chart



7. Highest Level of Education Pie Chart



8. Table 1: Gender Means

Hotel practices overall score			
Gender	Sample size	Sum of overall scores	Gender means
Male	41	161,38	3,94
Female	88	378,38	4,30

9. Gender vs Green Intentional Behavior in Hotels Correlation**Correlations**

		Hotel Practices overall score	GenderNum 1
Hotel Practices overall score	Pearson Correlation	1	.223 [*]
	Sig. (2-tailed)		.011
	N	129	129
GenderNum1	Pearson Correlation	.223 [*]	1
	Sig. (2-tailed)	.011	
	N	129	129

*. Correlation is significant at the 0.05 level (2-tailed).

10. Age vs Green Intentional Behavior in Hotels Correlation**Correlations**

		Age	Hotel Practices overall score
Age	Pearson Correlation	1	-.099
	Sig. (2-tailed)		.264
	N	129	129
Hotel Practices overall score	Pearson Correlation	-.099	1
	Sig. (2-tailed)	.264	
	N	129	129

11. Income vs WTP for Ecofriendly Practices Crosstab

Income * WTP ecofriendly practices Crosstabulation

			WTP ecofriendly practices			Total
			1	2	3	
Income	2.000 – 5.000 euros	Count	20	16	12	48
		Expected Count	19.7	15.3	13.0	48.0
	5.000 – 10.000 euros	Count	6	4	7	17
		Expected Count	7.0	5.4	4.6	17.0
	More than 10.000 euros	Count	2	4	3	9
		Expected Count	3.7	2.9	2.4	9.0
	Up to 2.000 euros	Count	25	17	13	55
		Expected Count	22.6	17.5	14.9	55.0
Total	Count		53	41	35	129
	Expected Count		53.0	41.0	35.0	129.0

12. Table 2: Income vs WTP for Ecofriendly Practices

Income vs WTP for ecofriendly practices				
Levels	1 "Disagree"	2 "Neutral"	3 "Agree"	Total
Up to 2.000 euros	45,5%	30,9%	23,6%	55
2.000 - 5.000 euros	41,7%	33,3%	25,0%	48
5.000 - 10.000 euros	35,3%	23,5%	41,2%	17
More than 10.000 euros	22,2%	44,4%	33,3%	9
Total	53	41	35	129

13. Income vs WTP for Ecofriendly Practices Chi-Square Test

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.737 ^a	6	.712
Likelihood Ratio	3.713	6	.716
N of Valid Cases	129		

a. 4 cells (33.3%) have expected count less than 5.
The minimum expected count is 2.44.

14. WTP for Ecofriendly Products vs. Practices Crosstab

IDoNoyMindPayingExtraForAMoreSustainableProduct * WTPEcoFriendlyPracticess Crosstabulation

Count		WTPEcoFriendlyPracticess			Total
		1	2	3	
IDoNoyMindPayingExtraForAMoreSustainableProduct	1	26	13	3	42
	2	7	15	8	30
	3	20	13	24	57
Total		53	41	35	129

15. Table 3: WTP for Ecofriendly Practices at Home vs. in Hotels

WTP for ecofriendly practices at home vs. in hotels				
Levels at home \ hotel	1 "Unwilling"	2 "Neutral"	3 "Willing"	Total
1 "Unwilling"	61,9%	31,0%	7,1%	42
2 "Neutral"	23,3%	50,0%	26,7%	30
3 "Willing"	35,1%%	22,8%	42,1%	57
Total	53	41	35	129

16. WTP for Ecofriendly Products vs. Practices Chi-Square Test

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.715 ^a	4	<.001
Likelihood Ratio	24.171	4	<.001
Linear-by-Linear Association	13.031	1	<.001
N of Valid Cases	129		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.14.

17. Table 4: Household vs. Hotel Ecofriendly Practices' Means

	Household	Hotel
Recycling	I recycle	Recycling bins in the room
	4,05	4,26
Water usage	Short showers	Not washing the linen everyday
	3,29	4,09
Energy usage	I try to reduce the use of electricity whenever possible	Solar panels/consuming mostly renewable energy
	3,88	4,43
Ecofriendly products	I buy ecofriendly products	Ecofriendly amenities and cleaning materials
	2,78	4,12

18. Recycling Pearson Correlation

Correlations			
		I recycle	Recycling bins in the room
I recycle	Pearson Correlation	1	.270**
	Sig. (2-tailed)		.002
	N	129	129
Recycling bins in the room	Pearson Correlation	.270**	1
	Sig. (2-tailed)	.002	
	N	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

19. Water usage Pearson Correlation

Correlations			
		ITakeShower sThatAreLess Than5minAnd DoTurnOffT heShower	NotWashingT heSheetsTow elsEveryDay
ITakeShowersThatAreLe ssThan5minAndDoTurn OffTheShower	Pearson Correlation	1	.031
	Sig. (2-tailed)		.729
	N	129	129
NotWashingTheSheetsTo welsEveryDay	Pearson Correlation	.031	1
	Sig. (2-tailed)	.729	
	N	129	129

20. Energy usage Pearson Correlation

Correlations			
		I try to reduce the use of electricity whenever possible	Having solar panels and/or consuming mostly renewable energy
I try to reduce the use of electricity whenever possible	Pearson Correlation	1	.285**
	Sig. (2-tailed)		.001
	N	129	129
Having solar panels and/or consuming mostly renewable energy	Pearson Correlation	.285**	1
	Sig. (2-tailed)	.001	
	N	129	129

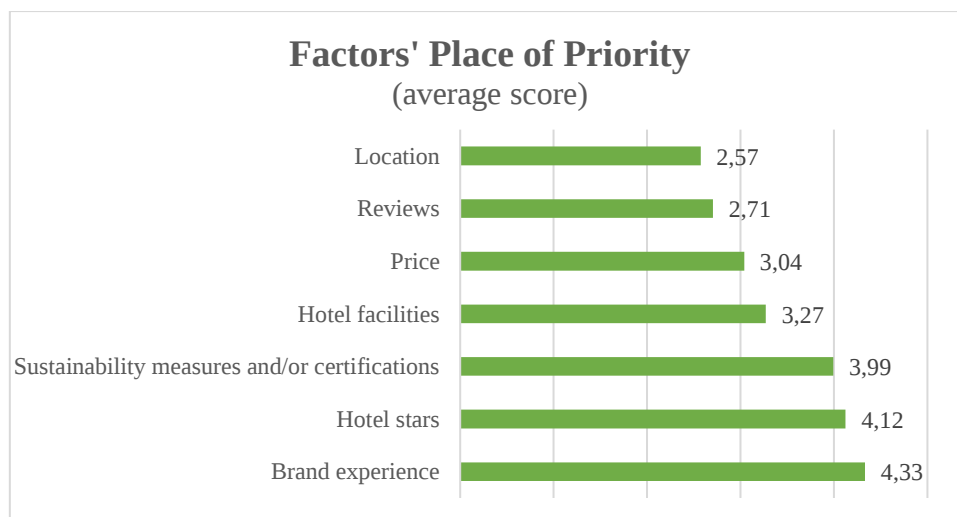
** . Correlation is significant at the 0.01 level (2-tailed).

21. Ecofriendly Products Pearson Correlation

Correlations			
		I buy ecofriendly products	Ecofriendly amenities and cleaning materials
I buy ecofriendly products	Pearson Correlation	1	.303**
	Sig. (2-tailed)		<.001
	N	129	129
Ecofriendly amenities and cleaning materials	Pearson Correlation	.303**	1
	Sig. (2-tailed)	<.001	
	N	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

22. Average Score of Factors' Place of Priority When Booking



23. WTP for Hotel Attributes Average Score

